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when we have the stars?

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THE
PHOTO-BEACON

A JOURNAL DEVOTED TO

PHOTOGRAPHY

IN ALL ITS PHASES.

VOLUME XIV.

1902.

"LET THERE BE LIGHT."

THE PHOTO-BEACON COMPANY,
Security Building,
Chicago, Ill., U. S. A.

THE HENRY O. SHEPARD COMPANY,
PRINTERS AND BINDERS,
212-214 MONROE STREET, CHICAGO.

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INDEX.

PAGE

A

Accessories 137
Alkalis 125
Amateur, The Evolution of an 333
Amusement 227
An Object Lesson 3
Art as Applied to Photography 308
Association of America, Photographers' . . 86, 150, 183, 201, 259
At Home Portraiture 38

B

Backing Plates 75, 139, 316
Beginners' Troubles 50
Beginners, Economy for 62
Blue Print Experiment 78
Bromid Enlargements 362
Bromid Papers, A Few Hints on the Use of Slow 61

C

Cabinet, A Darkroom 346
Cards, Mounting 10
Cerebral Wheels 195
Changing Device, A Handy 207
Chrysotype 48
Cleansing Utensils 10
Color Constants 74
Color, Hue and Purity of 112
Color, Light and 43
Combined Gold and Platinum Tones 14
Competition, Subscription 102
Competitions, Pictorial 4, 36, 69, 101, 134, 166, 197, 231, 260, 293, 326, 356
Composition 5
Composition, Conventional 295
Composition, Figure 102
Compounding Developers 339
Convention Portraits 327, 359
Convention, The National 259
Cooke Lens 335
Copying with Short Focus Cameras 107
Crystals, How to Photograph Snow 107
Cyko 61

D

Darkroom Cabinet, A 346
Darkroom Electric Lamp, A 247
Dekko 61
Developer and Its Constituents, The 55, 93, 125, 174, 213, 254, 313, 339, 376

PAGE

Developers, Compounding 339
Developing Agents, The Newer 213
Developer Papers, How to Work 156, 370
Dry Plate, The Romance of a 380
Dust Spots on Negatives 358

E

Economy for Beginners 62, 127, 155
Editorial Table . . . 32, 64, 96, 158, 192, 223, 256, 288, 320, 351, 384
Education 163
Electric Flash-lamp 29
Electric Lamp, A Darkroom 247
Enlarging Device, A Novel 59
Enlargements, Bromid 362
Envelopes for Negatives 11
Environment 131
Experiments, My 14, 48, 78, 123, 190, 218, 310, 344, 368

F

Ferrotype Plate, The 152
Figure Composition 102
Figure, The Human 71
Filters, Light 208
Fixing Plates, Holder for 30
Flash-lamp, An Electric 29
Flower Photography 121
Fog in Developing Papers 370
Frame, Retouching 372

G

Gaslight Printing Apparatus 12
Gold and Platinum Tones, Combined 14
Ground-glass, To Make 9
Groups 39

H

Hayes' Address at the National Convention, C. M. 299
Hints, A Few 366
Holder for Fixing Plates 30
Hollinger's Talk at the National Convention 261
Hubbard's Address at the National Convention, Elbert 268
Human Figure, The 71

I

Impurities in Raw Paper, A Test for 294
Isochromatic Photography . . 43, 74, 112, 146, 177, 208
Isochromatism 146

PAGE

K

Kodak Girl, The 38

L

Lamp, A Darkroom Electric 247
Lamp, An Electric Flash 29
Lantern Slides for Illustrating Songs 204
Light and Color 43
Light Filters 208
Lighting, Studies in 94
Lighting and Values 198
Looking Backward 348

M

Moonlight Photography 348
Mounting Cards 10
Mounting Pictures 10

N

Negatives, A Direct Method of Producing Reversed 380
Negatives, Preserving 319

O

On Paying the Price 67

P

Panoramic Photography 166, 252
Papers, Bromid 61
Papers, Fog in Developing 370
Parkinson's Address at the National Convention, M. B. 276
Past and Future 355
Paste 10
Perspective 169
Photographic Printing Processes 18
Photographic Resolve, A 91
Photographic Sociology 35, 80, 172
Photographing Snow Crystals 107
Photographs, How I Take 24
Photography, Flower 121
Photography, Isochromatic 43, 74, 112, 146, 177, 208
Photography, Panoramic 166, 252
Photography, Pictorial .. 5, 39, 71, 102, 137, 169, 198, 232, 263, 295, 327, 359
Photography, Trick 169
Photoisms 96
Pictorial Competitions .. 4, 36, 69, 101, 134, 166, 197, 231, 260, 293, 326, 356
Pictorial Photography .. 5, 39, 71, 102, 137, 169, 198, 232, 263, 295, 327, 359
Pictorial Photography at the World's Fair 221
Pictorial Photography, Motive and Method in .. 236
Pinholes 366
Pizzighelli Process 344
Planes 232
Plate, The Ferrotype 152
Plates, Backing 75
Platinotype Prints, Clearing 318
Platinotype, Something New in 285
Platinum 190

PAGE

Platinum Developing 18
Platinum Formula 218
Platinum Paper, Sensitizing 310
Platinum Tones, Combined Gold and 14
Pointers, Some 9
Portraiture at Home 38
Portraiture, Hints on 315
Positives on Opalescent Glass 365
Potassium-Ammonium Cnromate 153
Printing Apparatus, Gaslight 12
Printing-frame, A Universal 16
Printing Processes, Photographic 18
Prints With Black Borders 157
Prize System, Use and Abuse of the 143

R

Restrainers 174, 254
Retouching Frame 372
Reversed Negatives, A Direct Method of Producing 380
Reversion 291
Romance of a Dry Plate 380
Routine 324

S

Salon, San Francisco 87
Sensitizing Platinum Paper 310
Sensitometer, A Spectroscopically Correct Color 177
Serious But Funny 382
Shutter Speeds 366
Slides for Illustrating Songs, Lantern 204
Snow Crystals, How to Photograph 107
Sociology, Photographic 35, 80, 172
Sodium Sulphite 55
Solio, How to Get Good Tones on 31, 80, 172
Solutions 313, 376
Spotting 27, 263
Spotting Out 10
Subscription Competition 102
Sulphite, Sodium 55

T

Thoughts After Hours 373
Tones, Combined Gold and Platinum 14
Tones on Solio, How to Get 31
Trick Photography 169

V

Velox 61, 156
Visualizing 99, 184
Voigtlander and I 21, 52, 83, 114, 140, 187, 242

W

Washing Box, How to Make 156
Water 93
Way to Look at Things, The 245
Wheels Cerebral 195
Wheels in Motion 118

X

X-Ray Table 42

Negative by J. H. Field, Berlin, Wis.

FIRST PRIZE.

THE
PHOTO-BEACON.
EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. JANUARY, 1902. No. 1.

AN OBJECT LESSON.

One of the pleasantest duties that I have had for some time was acting, last month, as a judge in the Rotograph competition. The jury, as most of the readers of this journal know, consisted of Alfred Stieglitz, John Tennant, E. B. Core, all of New York city, and myself, the aim of the firm offering the prizes being to have as diversified a body of men as could be secured. Over a thousand prints were submitted in the competition, of which at least half were deserving of very serious consideration. The first work of the judges was to separate the prints into two classes, one consisting of those that were evidently not prize winners, and those that had a possibility. Once this stage had been reached, the question of future procedure arose. My readers can understand that a good deal of good-humored banter was indulged in by the judges as print after print was submitted in the culling process and gentle hints were made that certain members of the jury were responsible for particular effects exhibited in some of the prints. So it was with no little interest that each of us entered into the next stage of the work, expecting that in all probability there would be considerable discussion as to the placing of each print in its order of merit.

The "Gordian knot" was severed very deftly by Mr. Alfred Stieglitz, who began by stating an experience that he very recently had had in connection with the Camera Club of New York. On one occasion he and another member of the club were acting as jury of selection in determining what pictures were to go in the club box to be submitted to the lantern slide interchange, and at the beginning of the work certain members had hinted that only one school of pictorial endeavor would be considered in choosing the slides. A happy inspiration struck Mr. Stieglitz and he at once proposed that two committees be formed on the spot, one to consist of the other gentleman and himself, the other of the sixty-one members present. Each individual was to take a piece of paper and, as the slides were thrown on the screen, he would jot down a number indicative of his estimation of its quality. This was done, and on comparing the totals found by the two committees, to everybody's surprise, excepting that of Mr. Stieglitz, both committees had placed the first twelve slides in exactly the same order with the exception of the tenth and twelfth, which had reversed places. Mr. Stieglitz therefore suggested that we act on the very same principle and that each judge would view the pictures in turn, jotting down for each a number less than 100 as would indicate his estimate of the picture.

When the work was concluded and the figures were all totaled up, it was found that there was practical unanimity in the choice of the winning pictures and that the chief prizes in every instance had been awarded by the unanimous vote of the four judges.

There is a big moral in this little experience of mine which I think could be brought home with advantage in almost every photographic society in the land, and I sincerely hope that, simply as an experiment, the officers of each society on some early occasion will follow the experiment conducted by Mr. Stieglitz and his fellow members in the New York Camera Club and demonstrate very conclusively how inadequate human speech is to express human thought and how frequently the same words mean different things to different individuals, and that as a matter of fact, very much of human difference is due more to misunderstanding than to actual disagreement of thought.

F. DUNDAS TODD.

PICTORIAL COMPETITION No. 43.

This is one of the most popular competitions of the year, and a very large and excellent lot of prints were submitted to take part in it. The judges made the following awards:

First prize —J. H. Field, Berlin, Wisconsin.

Second prize — Frank L. Silva, 1496 Bedford avenue, Brooklyn, New York.

Third prize —W. G. Corthell, Wollaston, Massachusetts.

PARTICULARS OF WINNING PRIZES.

First prize — Printed on Willis & Clements Platinotype.

Second prize —Taken in spring of 1900 when it was raining slightly, on Columbia plate, stop No. 16, four seconds exposure.

Third prize —Taken on Cramer Crown plate. Printed on Dekko.

We would draw special attention to Rule 1, as during the past month very considerable annoyance and expense has resulted from inattention to it by many of the competitors. The class to which this mail matter belongs permits the writing of the sender's name and address on the picture, but absolutely nothing else. Therefore, no title or information of any kind can be written on the print, nay, more, the package itself must not be marked outside with such words as "photographs only," the only permissible writing being the address to which the package is to be delivered and the name and address of the sender. If one word more be added the package will be charged at ordinary letter rate.

FUTURE COMPETITIONS.

Competition No. 45 — Pictures of children under seven years of age, not necessarily portraits. Closes January 31.

Competition No. 46— Lantern slides, any subject. Closes February 28.

Competition No. 47 — Snow pictures. Closes March 31.

Competition No. 48 — General competition, any subject. Closes April 30.

Competition No. 49 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 50 — Domestic animals. Closes June 30.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else*. The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying, a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER I.

COMPOSITION AND ARRANGEMENT.

Since my talk in Detroit last summer I have been turning the subject of these papers over in my mind, and I have come to the conclusion that the first and only way I can be of any service to any one is to explain, if such a thing is possible, the why and wherefore of good arrangement.

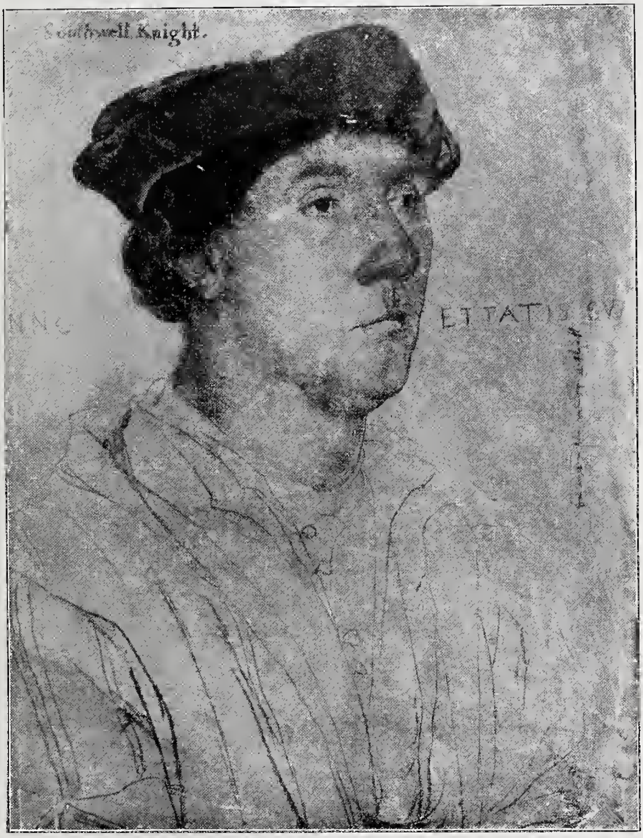
Southwell Knight.

FIG. 1.—AFTER HOLBEIN.

In my talk I referred to Arthur Dow's clever little book on elementary composition. I recommended it at that time as a clever analysis of the broad principles that underlie composition, and I would like to repeat the same thing now. If you will carefully go over Mr. Dow's book you will be repaid. It will serve as a good forerunner to this series of papers, as well as save me from the pernicious crime of plagiarism.

I intend to start from the beginning and make the reasons why one picture is better than another as clear as possible, connecting them link by link, and not take up the criticisms of photographs until the last two or three papers, when I shall try to make good my statements with practical examples.

Variation, in one form or another, is the most important thing for any one to study. It is the skilful variation of sound that changes a monotonous note into music. And in picture-making it is the proper variation of space, line, color and light and dark that make a beauti-

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*Copyright, 1902, by F. Dundas Todd.

ful picture. The man who loves to be precise thinks he is doing his utmost when he places his sitter in the very center of the picture. If perchance his subject is a little to one side, his sense of order is offended and he allows what might be a virtue in a housekeeper to stand in his way as an artist.

There is a definite law that governs these oddities, so if one simply started out to be bizarre without understanding the reasons why and the broad principle that governs this, it is easy to see that he would be groping in the dark, and lucky if he ever hit the mark.

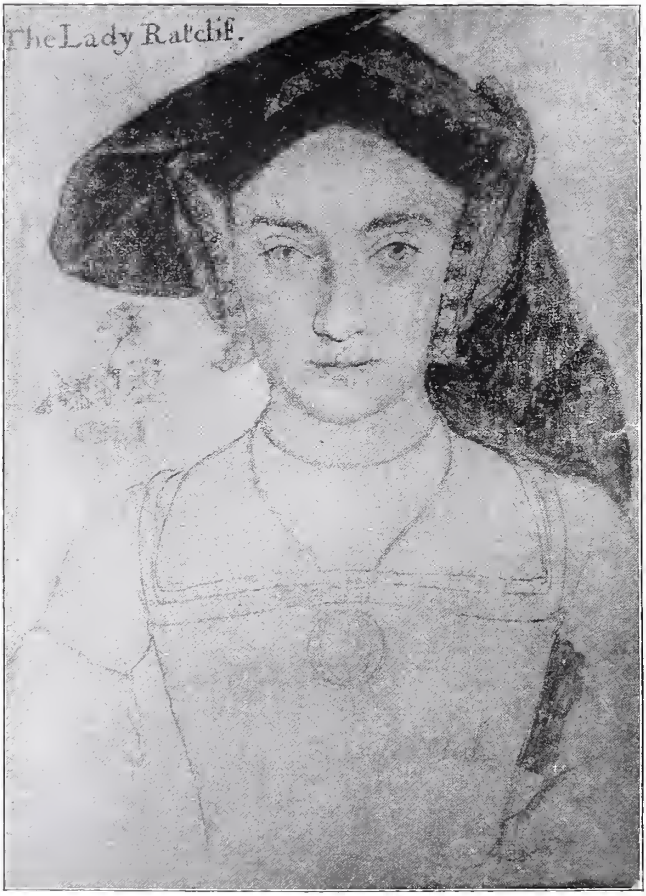

The Lady Ratclif.

FIG. 2.—AFTER HOLBEIN.

Mr. Todd and I agreed that the crying need of the average photographer was to know the reason why. There are many men who can tell you in an instant which of several pictures is the best, but if asked to tell why would be utterly unable to do so.

Now, it is the reputation of artists that they are different from other people. They are themselves variations of the human species. They wear things a little to one side, as it were, and it is just this happy-go-lucky unconventionalism that we want to discover. However, you must not at once jump at the conclusion that it is merely something odd that is required.

The photographer must recognize in the start that art is something more than the mere copying of nature. Art must always come from nature, but through a personality, and be warmed by that personality. Art must be more than nature, by being less. This seems like a paradox. However, Millet and Puvis de Chavannes are great for what they knew how to leave out. An artist sees less than is in nature when the sacrifice would make the important thing tell the more. So in this we have a very important variation, the variation of the power of seeing.

You must remember that your means of expression, the camera, is simply a machine. It will make the wart on my lady's nose as clear and sharp as her beautiful eyes. It has no conscience, no feeling, no sympathy. There is no variation in the camera's eye; it sees everything equally well, and as a consequence the interest is distributed all over the picture, with the result that there is no special interest anywhere.

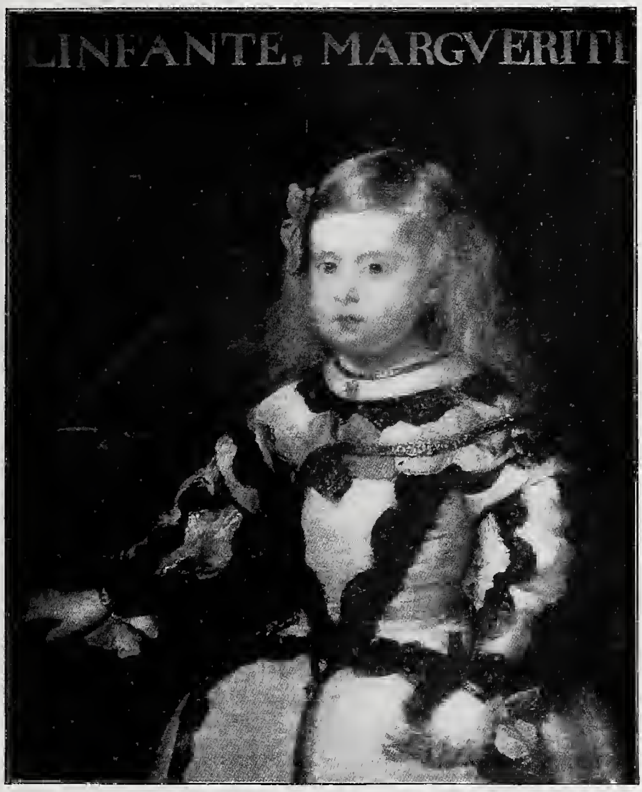


FIG. 3.—THE INFANTA.—AFTER VELASQUEZ.

As I said, in the start, this scheme of variation is born of nature itself, but in this paper I will only take up the variation of spaces as applied to arranging a bust portrait, and try to give you some practical suggestions.

I shall speak later about posing the sitter so as to get the greatest beauty out of the full or half length portrait, but the present paper will treat of the proper way to put a simple head into a space in the most effective way. A bust portrait takes in so little of the figure that the line element of your composition is almost eliminated and accessories as well are almost out of the question. It goes without saying that the head must be posed so as to develop the character and give the most pleasing results. This will vary with each subject, and is a task to tax the ability of the best artist in the land. It is doubly hard for a photographer because he very often sees his sitter for the first time when he comes to the studio for the sitting. He must accept the clothes worn, whether they have possibilities or not, and be expected to turn out in a sitting of an hour or so a perfect picture, while with a painter it is different. He very often knows his sitter very well, has seen him often under varying conditions and is very much better prepared to paint him than he otherwise would be. Now add to this advantage the privilege of changing any detail or the whole at any time up to the completion of the picture, which may extend over a period of several months, and we shall see that the knight of the brush has an advantage, or rather is forced to take more pains. So, with the camera, I would say, take your time. If the dress does not suit you, have another. It may be a delicate undertaking to tell a lady who comes into your studio with her spring gown on that it will not do, but if you are to do good work you should have the same say in the matter that a painter would have.

In my opinion, the amount of space around a picture should have some relevancy to the size of the subject. The old masters understood this and never failed to make the most of it. When Van Dyke or Velasquez painted a child, the subject was always low in the picture, giving a sense of the littleness of the subject. There was invariably lots of room over the head, if it was a bust, and a good deal of room all around if it was a full length. While on the contrary, when these men painted a tall man, the figure filled up a good share of the space, the head coming very close to the top, and gave one the impression of a large figure. This seems very important to me, and should be the first thing to consider in placing your figure. Next, how can we apply variation of any kind to a simple bust portrait? First of all, by the spaces. I mean by that the different spaces between the subject and the boundary of the picture. No part must be left entirely empty, and on the other hand, all parts must *not* be *equally* filled. Get as great a variation in these areas as you can. It is obvious that if you place your sitter squarely in the center, we will have no variation, as all the spaces will be equal, and just how the subject is to be placed within its borders is too subtle a matter for which to give a recipe, so much depending on the light conditions, subject, etc. But I accompany this article with several Holbein drawings that have a fine decorative quality in this regard. Some of them, the old man with the black hat, for instance, seem almost extreme. One who did not know might think that, on the contrary, it was very badly placed. However, nothing could be more interesting than this beautiful drawing, and the amusing way in which it is placed within its boundaries. The variation in spaces here is too self-evident to need any explanation. The same is true of the Lady Ratclif. Notice where the name is printed in these drawings. There was more room at the bottom, but the name where it is is extremely decorative, as a bit of detail, while, if it had been written across the bottom, would have been nothing more than a sign, as well as attracting the attention from the face.

The little Infanta, by Velasquez, illustrates the point I made about the spacing of a child's portrait, and the splendid portrait by Rubens of himself seems to me an eloquent vindication of what I said concerning the portraits of tall people. You will notice that the head is carried high up in the frame. The picture itself may be no larger than a postage stamp, but we get at once the impression of a tall man.

In portraiture the first impression is extremely important.

WANTED, PHOTOGRAPHS OF LIVE WILD ANIMALS.

Doubleday, Page & Co., No. 34 Union square, New York, N. Y., announce that they are looking for good photographs of live wild animals, and that they are willing to pay a good price for good prints. They are also desirous of securing particularly good photographs of poultry and domestic animals. A word to the wise is sufficient.

SOME POINTERS.

HOW TO MAKE GROUND-GLASS.

Take old, spoiled negatives. Clean off the gelatin nicely by soaking in hot water with a little ammonia added. Then take two of the cleaned glasses, lay one of them flat on a table, place some flour of emery on it, add sufficient water to make a paste, place the other glass on top and rub the glasses together with a circular motion. After rubbing the glasses together a while, rinse off and examine. If not sufficiently ground, add more emery and water and continue the grinding. On account of some glass not being quite level you will find hollow places which escaped grinding. For such apply a small quantity of the emery paste on a rag, or use a bit of flat glass about an inch square, and rub the hollow places until sufficiently ground.

FIG. 4.—PORTRAIT OF RUBENS.—BY HIMSELF.

Ground-glass is a very handy article to one interested in picture-making. It is well to have a few pieces on hand in case of emergency. For instance, you get out your camera and accidentally break the ground-glass. Having some of your own make on hand, it can be replaced in a few moments.

For negatives that make harsh or contrasty pictures, place one or two pieces of ground-glass on the printing-frame while printing the picture. You will find much of the contrastiness reduced in the finished print, and more of a soft-like effect is obtained. If you have a negative where the shadows get too dark while printing, take a piece of the ground-glass, same size as the negative, place ground-glass and negative together, the ground side out, hold them up to the light with the ground side next to you; then with a very soft pencil go over the parts that need darkening, with a circular movement, until sufficient density is obtained. Dry powdered prussian blue may be used instead of a pencil, being applied with the finger.

The negative and ground-glass are now put into the printing-frame, and printing proceeded with, and I think that you will be pleased with the result, especially if the darkening has been applied evenly and in the right place.

MOUNTING CARDS.

As dark mounting cards seem to be the prevailing color, and as a large percentage of all pictures are dark or nearly as dark as the mounting card, it is hard to distinguish the edge of the pictures from the card on which they are mounted. To overcome this and at the same time give your pictures more of a sightly appearance, print them under a " cut-out," to give them a very narrow white edge all around. Get some stout, thin opaque paper, and cut out a square piece the size of the print wanted; for instance, you wish a 3 by 4 print; take a piece of the opaque paper about ½ inch longer and wider than the desired cut-out, using a square with which to draw your lines, and square your cut-out; then use 3¼ by 4¼ printing paper, which will give you ¼ inch all around for wear and tear during toning, and sufficient edge for trimming. When prints are dry, trim them, leaving 1-16 inch white edge all around.

PASTE FOR MOUNTING PICTURES.

Take a heaping teaspoonful of cornstarch and half a teaspoonful of white sugar. Put it into a cup; then add a quantity of warm water (not hot) to make a thin batter. Have some boiling hot water handy, pour some on the batter and stir very briskly until the right consistency is obtained. The paste can be used after cooling about ten minutes, and will be found suitable for mounting all kinds of pictures.

The paste is not fit to use after it gets cold, as it becomes thick. It will then be necessary to make a fresh batch.

CLEANSING UTENSILS.

Keep your trays and measures clean. For cleaning graduates, trays, etc., nothing beats sal soda. Take a wide-mouthed bottle, fill it about half full of sal soda; then fill up with water. Label " Saturated Solution Sal soda." For use take a small quantity of the solution, add a little water and clean any vessel that may need it.

SPOTTING OUT.

About the best and cheapest material for spotting negatives and matt-surface pictures is black india ink, put up in small oblong cakes, costing 5 cents a cake.

If rightly handled it can be used to spot out any ordinary defect or pinhole in any negative, or touching up defects in a finished print. For touching out pinholes use a No. 1 sable brush. Dip it in water and apply to the cake of ink until enough of the ink is taken up; then daub the brush on a piece of writing paper; again dip it in the water and daub it again on the paper, the idea being to dilute the india ink or make it nearly transparent.

Now, having your brush pointed with the least possible amount of ink, apply it to the pinhole deftly; a single touch will be sufficient for a very small hole; for larger holes two, three or more touches will be necessary. The main thing is to have your ink well diluted, so as to be almost invisible when applied to the hole the first time, but by repeated applications, and always waiting until the previous one is dry, you will soon have the defect covered to a nicety. If the ink were used as it is, it would produce a black spot, and the resulting print would show a white spot, which would again have to be retouched. By carefully working with the diluted ink you

Neg. by John W. Schuler, Akron, Ohio.

SAILING.

will be able to match the color of the negative almost to perfection; at least the spot will be invisible in the finished print.

Do not expect to be proficient in the work the first time, as it requires a little practice, and it is quite a knack to use the brush deftly. A retouching frame is essential to do the work properly; the straining of the eyes is not nearly so great when working behind a retouching frame, provided all side lights are shut out. An enlarging or reading glass will be found of use to those whose eyesight is not very good.

ENVELOPES FOR NEGATIVES.

Make them yourself; then put the name of the subject, date, time, exposure, etc., on them in rotation, the way it should be. The negative envelopes, as bought from the dealer, are usually printed in such a way as to make them inconvenient for all classes of negatives.

In making the envelopes, use the ordinary light-weight express or manila paper. If one wishes to make a 5 by 7 envelope, cut a piece of cardboard, size 5¼ by 7¼, lay it on the paper, allowing three inches on each side of the cardboard, and fold it over the top, allowing about one inch of paper at one end to close the envelope. Now fold the end over the cardboard, using the finger-nail or a stick to crease the paper; remove the board, cut off the inside end at the crease, leaving the outside end to be cut in a round shape. Now paste the side pieces, sticking them together down the center. Apply paste to the end flap and close the end.

Along the long side of the envelope, with pen and ink put on your title, date, etc., something like this:

Subject ....
Date............ Time.............
Exposure....... Stop..............
Plate........... Lens.............
Weather conditions ....
....
Remarks ....
....

A convenient way to keep negatives and easy of access is in the ordinary linen collar boxes, which can be had gratis at any dry-goods store or gents' furnishing house. They will hold the 5 by 7 negatives lengthwise and the 4 by 5 crossways.

Get several of the boxes, use one each for portraits, groups, landscapes, architectural views, etc. Put a label on the end of each box, naming the contents. Any negative can then be easily found without looking through a lot of mixed negatives. A. G. GRAFF.

GILBERT J. MILLER, manufacturer and patentee of the multiplying slides, and W. A. Bernham, manufacturer of the new border masks, have formed a copartnership under the name of Milbern Manufacturing Company, 334 Dearborn street, Chicago, where they will be better equipped to supply the demands of the trade. They have several new things which will be placed on the market the coming season, and it will be well for up-to-date dealers to keep in touch with them.

GASLIGHT PRINTING APPARATUS.

For those users of gaslight paper who desire an accurate and convenient method of exposing and recording the exposure, this article is written. The arrangement consists of a Welsbach burner enclosed in a box to prevent the light from shining where it is not wanted, and a graduated shelf on which to set the printing-frame.

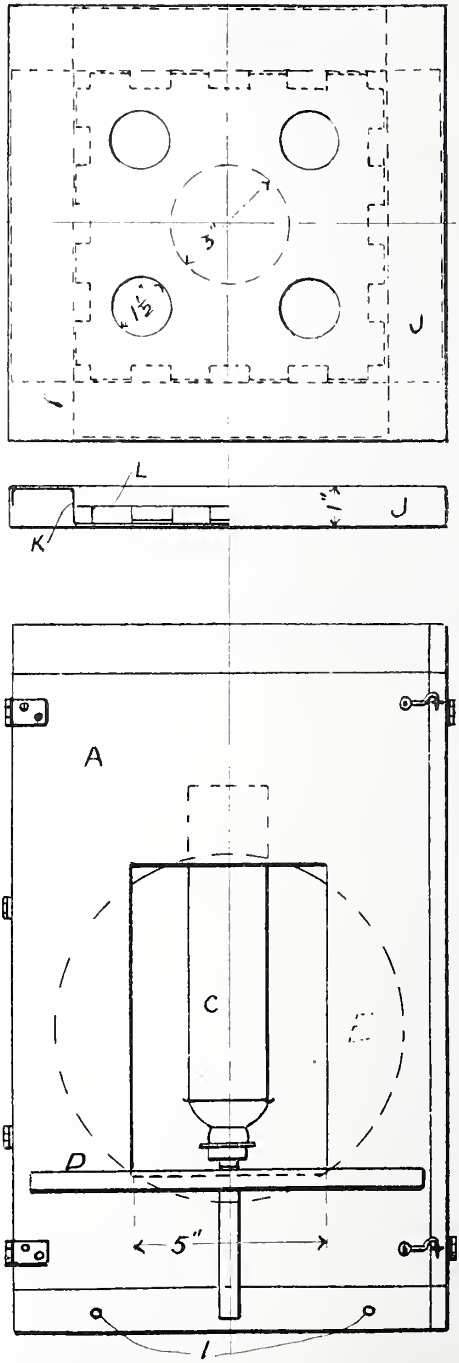
The writer makes no claim of originality for the light in the box, but some of the other features he has never seen elsewhere, and thinks they add to the value of the apparatus.

The box A is made of ½-inch pine or other convenient lumber, rabbeted at the corners, and if hinged as shown it may be knocked down and folded to occupy a little over two inches in thickness. The strips on the ends are to prevent warping, and may be about one inch wide.

The bottom B is of ⅞-inch stuff, made to fit inside the box, and held in place by four headless wire nails I, driven into the edges and fitting into corresponding holes in the box.

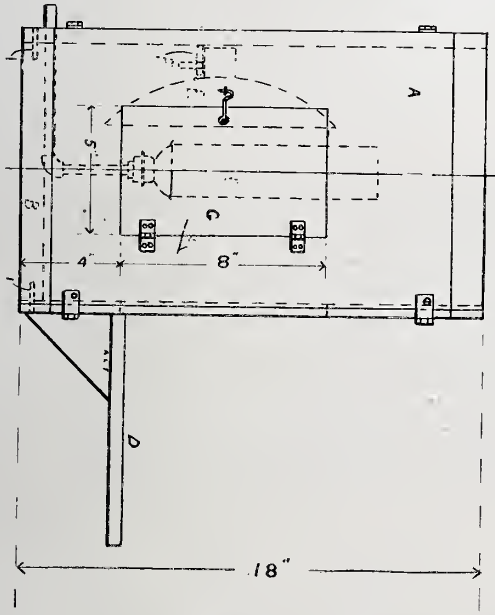
The burner C is screwed to the top of a ⅛-inch nipple, connected as shown, at such a height as to be opposite the center of the opening in front of box, and to the end of pipe which projects through the back of box a rubber hose from a convenient gas fixture is attached. If the apparatus is to be used always in the same place a good plan is to insert one of the cocks made for the purpose between a gas bracket and the pipe projecting from the wall, thus enabling the operator to slip the hose on or off without interfering with the light in the room, which will not be needed during printing, however, as sufficient will come from the box. The manner of securing the pipe to bottom B is not shown, but may be by staples or other convenient way.

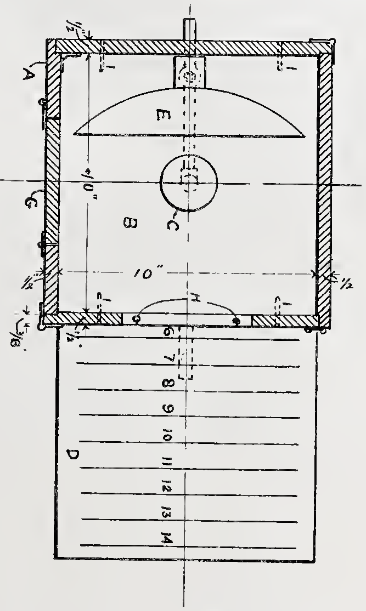
The shelf D has lines an inch apart, numbered as shown, and measured from the burner. It has a bracket underneath, and is held in place by two screw-eyes H, which slip over wire nails as shown. By lifting the shelf slightly it may be removed. The opening through which the light comes is 5 by 8 inches, and is large enough for an 8 by 10 print if not placed too near.



The reflector E is one of the "silvered" glass kind to be had for 25 cents, and is held in place by a large screw-eye F screwed into the back of box, and through the eye of which is put the pin on back of reflector. The reflector is not necessary, but adds to the power of the apparatus.

The door G is more of a convenience than necessity, and may be left off if not wanted.





The cover, composed of three pieces of tin, J, K and L, is just large enough to slip over the top of the box. The piece J is flat, turned down around the edges, and has the four 1½-inch holes. K is notched at the corners and bent to fit closely inside J around the outside, but drops down in the center and has the 3-inch hole. It is better to make K first.

The piece L which fits between J and K is cut into around the edge at intervals of one inch, and alternately turned down and left straight. To prevent the light from being reflected through the openings it is a good plan to blacken the inside with drop black in japan, thinned with turpentine. A tin lining to box will help reflect some light and also protect the wood from the heat of flame. The writer has had the best results with the Yusea mantle, as the light is so much stronger than some others, but there is a burner on the market which uses gasoline vapor under pressure, and is said to give a light about three times as strong as the gas light. In this connection the following table showing the relative exposure necessary at different distances from the light may be found useful, always remembering that the intensity of the light varies as the square of its distance.

INCHES.	6	7	8	9	10	11	12	13	14
6	1.	1.4	1.8	2.2	2.8	3.4	4.0	4.7	5.4
7	.73	1.	1.3	1.7	2.0	2.5	2.9	3.4	4.0
8	.56	.77	1.	1.3	1.6	1.9	2.3	2.6	3.1
9	.44	.60	.79	1.	1.2	1.5	1.8	2.1	2.4
10	.36	.49	.64	.81	1.	1.2	1.4	1.6	1.9
11	.30	.40	.53	.67	.83	1.	1.2	1.4	1.6
12	.25	.34	.44	.56	.70	.84	1.	1.2	1.4
13	.21	.29	.38	.48	.60	.72	.85	1.	1.2
14	.18	.25	.33	.41	.51	.62	.73	.86	1.

When once the correct exposure for any negative with any paper is found, it is a good plan to make a note of it on the envelope or elsewhere for future reference.

ALFRED L. FITCH.

[Since writing the above, the author says he finds that he gets more even illumination by using two burners side by side without a reflector.]

MY EXPERIMENTS.

NO. IV.— COMBINED GOLD AND PLATINUM TONER.

An experiment can be devoid of positive results and still be a useful and successful experiment. The man who tries the ice with a view to calling all hands to come and do some skating may insert part of his person in an air-hole. Then, instead of telling how fine the ice is, he gets him a board, a brush and some paint, and combines them in such cunning fashion as will allow his reading spectators to learn that *"This Hole is Private Property — Keep Out!"*

When he made the experiment he was looking for some good skating. If he had found it, his results would have been positive; but he found a hole and his results were moistly negative, but they were none the less valuable just on that account.

When I began experimenting with toning baths I collected more negative results than positive ones. By making notes at the time and then labeling them with appropriate danger signals, I gradually got to know what sorts of combinations were to be avoided, and, finally, why they were to be avoided.

When, for instance, I read what Lionel Clark had discovered with regard to the possibility and practicability of first toning in gold and then in platinum, I started a line of experiments to see if his process could be successfully varied; if the alkaline gold bath could be made an acid one, and the acid platinum bath be made an alkaline.

It occurred to me that as gold and platinum were very close to each other in the chemical system, and each of them could be successfully reduced on the silver image, that it made, or should make, but little difference which of them was used in precedence as a toning medium, or which of them should be acid.

When I tried it I found that I had another occur coming to me; that the gold solution needed to be alkaline or, at least, neutral, and that the platinum would not work up to schedule unless it were quite acid.

Having established these facts it was next necessary to find out why it was that an acid gold bath always bleached out the silver image, and the alkaline platinum bath would either refuse to tone or would only yield a brown tone and one, at that, that would disappear under the action of inorganic or, so-called, mineral acids.

It took a good deal of speculation and collateral reading to work up a reasonable deduction as to the whyness of it all, but I finally deduced that when an acid solution of gold chloride was presented to the reduced silver, the gold was reduced all right, but it did not combine with the silver because the three atoms of chlorine that were freed during the reduction were, in an acid solution, able to work together and reconvert the reduced metallic silver into a soluble salt similar, possibly, to a chlorate or hypochlorite, or even to such a trichloride as distinguishes chloral hydrate, for chloral hydrate contains the same number of chlorine atoms as gold chloride does, and yet, with all of its chlorine, it is incapable of converting silver nitrate into silver chloride, or, if it does combine, it yields a soluble salt.

If, however, an alkaline salt be included with the solution of gold chloride, the alkaline base takes care of the liberated chlorine; the reduced gold amalgamates with the silver and we get a good, solid tone.

Since metallic platinum is not acted on by any one single acid, but does combine freely with alkaline bases, it follows that when the chloroplatinite of potassium is reduced from an acid solution by the agency of the silver-gold amalgam, it comes down as metallic platinum, pure platinum black; but when the solution is alkaline, the platinum combines with the alkaline base, either wholly or in part, and is added upon the image more as a coating or superficial layer of a rusty black alkalo-platinum compound than as a true amalgam of the free metals, such as should always occur in proper toning.

These, then, are the deductions that reached me via the negative results of my experiments. They may be inaccurate, but they are plausible, and will do to tie up to until some better ones are dug up, and, as the lawyers say, Know All Men by These Presents that you are never to use your gold bath acid nor your platinum bath alkaline, or you will have to run out a line of deductions on your own account.

If gold chloride and the platinous salts were not like Kilkenny cats when their solutions were mixed together; if they did not pull off their chlorine coats on sight, throttle each other and fall to the bottom with a dull, sullen thud; if they could be restrained to just the right extent in a single solution so that they would not have a falling out until the silver print was handed in to them, we would have an ideal gold-platinum single toner; but alas, and be jabbers, they are incorrigible, and the gold bath followed by the platinum bath remains as the only sound and always reliable method of toning silver prints to that blue-black tone that we are all after.

Negative by Mrs. B. T. Broome, Chicago, Ill.

ON THE BOULEVARD.

Gold chloride and *platinic* chloride can be combined in a single bath though, and the bath can be used for toning, but you will not get the blue-black tones with it; still, as some of you might like to try it, I will give you a formula that will give very decent tones, and you can try it out for yourselves.

As one molecule of gold chloride contains three atoms of chlorine and one molecule of platinic chloride contains four of them ($AuCl_3$ and $PtCl_4$) some provision must be made for this great excess of chlorine or the silver image will be bleached away and there will be no toning, as such, hence the bath must be an alkaline one.

Now what alkali would we better use? Will it be a carbonate? Or, perhaps, a hydrate (caustic)? No, neither of them, for the inorganic salts do not work so well in this connection as the organic ones, unless an exception be made in favor of the phosphates, and we will then work with some of them and get a formula about as follows:

Gold chloride	1 grain
Platinic chloride	1 grain
Rochelle salt	10 grains
Sodium phosphate	10 grains
Water	20 ounces

Print quite deeply, so as to get as considerable a deposit of reduced silver as can be obtained without obscuring all detail; wash the prints until the wash water is no longer milky and then tone in the above until you get the tone that you are after. Then rinse them for a couple of minutes in clear water and complete fixing and washing in the ordinary way.

If this bath tones fully in less than ten minutes, more water should be added to it, or perhaps it might be just as well to make it forty ounces instead of twenty to begin with.

RALPH MARTIN.

A UNIVERSAL PRINTING-FRAME.

We hear much of printing in clouds and other objects, making combination pictures, panoramic views, etc., and are told that the work is easily done, but the amateur finds it far from easy when he undertakes to print in a few clouds. Things will not work right; view negative is fine, cloud negative good, but horizon line is low down and he can not get the clouds where wanted. He can not shift paper, as printing-frame is too small. He has heard of laying the print on cardboard with the negative over it, so he arranges his masks for foreground and proceeds to print. Everything appears all right. He examines print and finds it only half printed. On finishing printing he finds the print spoiled, as the paper had moved when cardboard was turned down to examine print. A few more trials with poor success and he gives up combination printing in disgust.

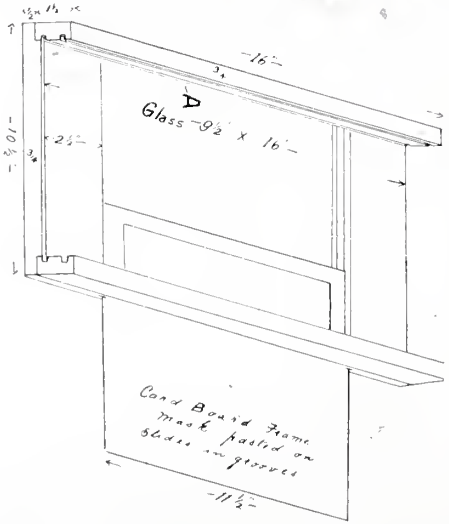


FIG. 1.

I do not think there is a printing-frame on the market that gives satisfaction for this work, but fortunately a frame for the purpose can be easily made by any one handy with tools. I have had such a frame in use for several years that gives satisfaction in every particular for all kinds of printing.

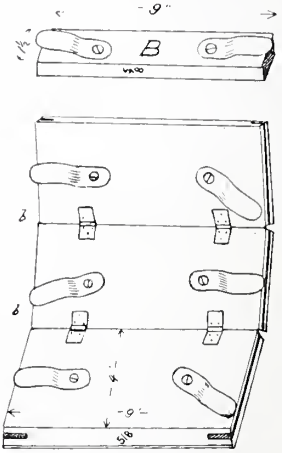


FIG. 2.

For 5 by 7 negatives and smaller, the frame should be at least 9 by 11 inches in the clear; this size will give you a chance to print from any part of a negative, make pictures with wide border, etc. Of course, any negative that will go in the frame can be printed in it.

Cherry wood is supposed to be the best for framemaking, but any wood can be used, if not too soft. Maple makes a good frame, but is hard to work. For a frame of the size given you will need two strips ¾ by 1½ by 16 inches. Plow two grooves in them, as shown in cut, ¼ inch deep, about 3-16 inch wide and ¼ inch from the edges. The end pieces are ¾ by 2½ by 10½ inches. The ends are gained ¾ by ¼ inch for the side pieces. These end pieces have two narrow grooves, ¼ inch deep in the edges. The one must be just below gain, that is ¼ inch from top. They are fastened to side pieces with two wood screws in each end. It is important to have all true and square.

A light of double-strength glass free from bubbles and scratches 9½ by 16 inches in size is slipped in the bottom groove. It must be a close fit, so there can be no chance of its moving or falling out. The back is ⅝ inch thick, covered on the face with felt cloth, and of the ordinary pattern. It is best to have it in three pieces, however, each 4 inches wide. Strips ¼ by 1 inch can be let in the ends to prevent splitting. Springs can be made of hard hoop brass ⅞ inch wide. As shown, they are fastened to the back with round-head screws on which they turn. The piece marked B is used to hold paper while it is being adjusted. A small stud is driven in one side piece between the grooves, 5½ inches from end — a No. 16 brad with head cut off and projecting ⅛ inch will do. It is shown at A. Notches 1-16 inch wide and ⅛ inch

S. L. Stein. G. Cramer. J. M. Steffens. F. Dundas Todd. J. C. Strauss.

THE END OF THE STORY.

deep should be cut in back at joints, seen at *b* in cut. In closing the back, the first leaf is pushed up against the stud, and when the second is closed, the back is held immovably in place.

Heavy cardboard frames slip in the grooves in the end pieces. On these, masks, shades, vignetters, etc., can be pasted. Cardboard kits fit in frame on the glass, with opening to fit negative. Strips of black paper are pasted around the opening to keep light from striking through between kit and negative.

Sandpaper the frame and give it several coats of shellac, or rub it over with boiled oil. I have attachments for holding ends of paper when making long panoramas, protecting the paper from light. JAMES SLACK.

LET me tell you that I appreciate very much the practical and interesting articles which THE PHOTO-BEACON contains each month. It is certainly good value for the small annual subscription. Success to you. H. W. BARKER.

Negative by W. G. Corthell, Wollaston, Mass.

"My School of the Good Old Days."

THIRD PRIZE.

PHOTOGRAPHIC PRINTING PROCESSES.*

BY LOUIS H. HOYT.

CHAPTER XIII.

PLATINUM DEVELOPING.

A saturated solution of potassium oxalate is the standard developer for platinum papers, but to obtain various effects other salts are added in varying proportions. Plain potassium oxalate makes a very good developer, but for the colder tones which most printers prefer, the addition of phosphate of potassium or sodium is necessary. I have heard that the potassium is the better, but can not see any particular difference. A good all-round developer is made by dissolving twelve ounces of potassium oxalate and four ounces of either phosphate in about fifty ounces of hot water, and allowing it to cool. Filtering will not be necessary, although it is just as well to remove any matter which might adhere to the print. With different makes of paper it may be found advisable to increase the proportion of the phosphate, and again a smaller amount may give the tone you want.

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* Copyright, 1901, by F. Dundas Todd.

When printing from negatives that are inclined to give a flat print, the addition of a few grains, or in some instances quite a quantity of sulphate of potassium, to each ounce of the developer, will help in securing more contrast. The printer should experiment with different proportions of the various salts until a combination is secured which gives the desired results.

For good results the developer should not be used below sixty degrees in temperature. If the developer is too cold, the prints will probably be weak and granular. The temperature of the bath has much to do with the tone, heat increasing the tendency toward the brownish blacks. Old developer, that is a solution which has been used, gives better results than one perfectly fresh, and for this reason the used developer should be saved and used repeatedly, adding fresh solution occasionally to keep a sufficient quantity in the tray. Economy in the quantity of developer used is expensive, as the dish must contain enough so that the print may be quickly covered.

Underexposed prints may be saved by raising the temperature of the bath, or by removing the print from the developer and holding it against anything that is hot, but the tones will suffer.

The best way to place a print in the developer is the way you can get it covered quickly, without air bells forming on the surface. Taking it by one edge and sliding it in face up is about as handy as any, and any bubbles can be seen and brushed away. Develop until the print is just a shade lighter than the finished print is desired. It will dry a trifle denser than it is while wet.

When developed, the print is placed directly in the acid clearing bath. This bath is of one ounce of chemically pure hydrochloric acid in about sixty ounces of water. To be absolutely sure of pure

Negative by W. G. Corthell, Wollaston, Mass.

"My Boy's School of To-day."

whites, three acid baths should be used, all of the same strength. Leave the prints in each bath for probably five minutes and then wash in clear water for a quarter of an hour to remove the acid. The last acid bath should not show a trace of the yellow color. If it does, use four baths, or else change the old for fresh ones.

These simple directions are all that are necessary to be followed to produce platinum prints in black and white. Troubles will appear, however, and a few of them we will consider. Generally the amateur gets into trouble by using negatives unsuited to this kind of paper. Nothing but experience will teach him to leave weak negatives alone.

Overdeveloped prints will be too dark and underprinted ones too light. It is theoretically possible to strengthen or reduce them, but it is not practical, and a new print is cheaper and more satisfactory. Yellow whites are caused by not clearing sufficiently in the acid bath.

I do not like to say a word about sepia and red tones on platinum paper, because, until the printer has had experience, he is going to have trouble. If they must be made, use the paper recommended for that purpose. It will contain mercury, and, if used as directed, then very fine results may be obtained. The plain oxalate of potassium developer (a saturated solution) or the oxalate phosphate solution may be used for developing sepias and reds, but it is necessary to add various amounts of bichloride of mercury and also to vary the temperature of the developer for the different tones. My advice is to let mercury alone. Mercury-developed prints are uncertain and altogether unreliable. The trays used for mercury solution can not be used for black tones afterward without taking chances.

The following table will be found a good base for experimenting on how to secure various tones with platinum paper:

No.	Paper.	Developer.					Temperature of Developer.	Result.
		Potassium Phosphate.	Potassium Oxalate.	Mercury Bichloride.	Citric Acid	Water.		
1	AA	½ ounce	½ ounce	....	....	5 ounces	Warm, 70°	Warm black.
2	AA	½ "	½ "	....	....	5 "	Hot, 170°	Warmer black.
3	AA	½ "	½ "	30 grains	....	5 "	Hot	Brown black.
4	CC	½ "	1 "	30 "	....	5 "	"	Cold brown.
5	CC	....	1 "	30 "	....	10 "	"	Warm brown.
6	AA	¼ ounce	½ "	30 "	10 grains	10 "	"	Cold sepia.
7	AA	....	1 "	Abnormal quantity	....	10 "	"	Brick red.
8	CC	Company's	D salts One ounce	30 grains	....	1 pint	"	Rich brown.
9	CC	Company's	D salts Two ounces	30 "	....	1 "	"	Sepia.
10	RS	½ ounce	1 ounce	30 "	10 grains	5 ounces	"	Warm brown.
11	RS	½ "	½ "	....	....	5 "	Warm	Rich brown.
12	RS	½ "	½ "	....	....	5 "	Hot	Purple brown
13	RS	½ "	½ "	30 grains	....	5 "	"	Sepia.
14	RS	½ "	1 "	30 "	....	5 "	"	Warm sepia.

White comets may be from a number of causes, such as dust or dirt on paper or negative, but in my experience they are generally due to defects in coating. With this paper it is about impossible to avoid them entirely and the printer must expect to have them appear occasionally. The best remedy is a spotting brush and india ink. Absolute cleanliness will prevent most of the spots and other small defects.

HAVE been purchasing THE PHOTO-BEACON from my news-dealer for the past two years, and think that each issue is better than the preceding one.

EDWARD FREDERICK.

JOHN PRINGLE & CO., 64 Wabash avenue, Chicago, announce that the flash-light so long manufactured by them under another name is now marketed direct under the name of "Light."

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

CHAPTER XIII.

MUDDY ROADS.

In looking back upon the callow days of my wanderings I am impressed with the good fortune I found at every step. People attached a more grave importance to having likenesses taken then. It was more the parents having likenesses taken for the children, a matter more seriously considered; something more in the way of duty, possibly a last duty — certainly a sacred one — from parents to children a legacy of love.

I had settled upon Medina, a place twenty miles distant, for my winter quarters. It was the middle of November and the roads were getting bad. I employed a man with a strong team and as light a wagon as would do in anticipation of mud.

We started, leaving Bedford and Tinker's Creek behind. As we got beyond the village limits, inside of which greater care was taken to keep ruts and holes filled and packed, we found mud enough to sling at political candidates throughout the States, and for children to supply the pie market for Ohio indefinitely. A lake of liquid mud with small islands cropping up here and there, covered the entire width of the road, and between the road-bed and the fences deep-cut tracks of wagons were seen. It was a discouraging outlook, much worse than we had expected, but having started, we resolved to go through. It was a hard pull for our horses. Our wagon wheels were pulling up chunks of mud at every revolution which fell back with a splash into the thinner surface and sank out of sight.

EAST BRANCH FALLS, ELYRIA, OHIO.

Occasionally we met an adventurous navigator plodding his way with a scowl upon his face, sullen and silent, his wagon, horses and harness bespattered. To speak of mud would not be taken for a joke — perhaps we had better not ask how far we were from Medina. There are times when men do not want to talk. The man at my side did not encourage conversation. I did not feel quite cheerful myself. It was muddy; we could neither of us change the situation, and so fell into a communion of silence. The few vehicles we met were not out for pleasure; they were "paddling their own canoes" the same as we were ours; to keep well in the channel, avoiding snags and hidden rocks was good fortune. We wallowed and lurched all day, at dusk entered the port of Medina and dropped anchor for the night. Here at the hotel we met Mr. Joseph Whitmore, daguerreotypist and postmaster of the village. I told him my purpose had been to stop through the winter. He assured me that Medina could not support two daguerreotypists, and recommended Elyria, thirty miles distant, a larger and brighter town and no daguerreotype man.

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*Copyright, 1901, by James F. Ryder.

We took an early start for Elyria. It was a long and tedious drive, the roads still muddy but not so bad as the day before.

At Richfield, we stopped for dinner and rest for ourselves and team. There I found a likeness man named Scripture. I was more impressed with his name than with the quality of his work. We took up our drive again after dinner and by patient and continuous plodding arrived at Elyria just at dark. My heavy trunk unloaded and our team stabled, we sat down to our supper at the Beebe House, a pair of tired men. It began to rain as we arrived and was a dreary evening.

The Cleveland & Toledo Railway, now a section of the Lake Shore & Michigan Southern, was being surveyed through Elyria, and a gang of men came in wet and weary from their day's tramp. Their high boots were splashed to the knees with mud, and so were their surveying instruments, with rods, poles and chains. Hungry men ordered supper. While it was being prepared they sat around the big stove to warm and dry themselves. The steam from their wet clothing began to rise and the odor was suggestive of wet boots and rubber coats. One of the party, a boy in his teens and delicate in appearance, fell asleep in the grateful warmth. A few people belonging to the house and an occasional dropper-in exchanged greeting with the surveyors, commented upon the disagreeable evening, inquired about the progress of the work and how the road was getting along. Supper was announced and they went into the dining-room like men with appetites. I began to study those I felt must be citizens and possibly future acquaintances. I was commencing a mental impression taking. I usually find impressions without prejudice a pretty reliable guide. We can like or dislike people at sight, can in some way make acquaintance without speaking. I went to the windows and looked out upon the street to get impressions there. The lamps upon the corners, in store and shop windows, the colored lights of a drug store, all looked blinky and sickly through the wet glass. I was forced to admit the place did not present a cheerful appearance. I concluded to go to my room to write a letter to my mother, and go to bed. I certainly was tired enough to go to sleep. I was nearer being homesick than any time since leaving the parental roof.

The Beebe House was quite a smart hotel for a village of three thousand population, and was a source of pride to the proprietor whose name it bore.

Adjoining it was a business block continuation, occupied by stores, bank, postoffice, telegraph office on the ground floor, and the floors above by business offices, legal, medical and otherwise. Upon this floor I secured rooms for my studio.

In front of the hotel was a pleasant park surrounded by residences and public buildings. Opposite the park on the main street was the commercial block, which was occupied by stores and for business purposes.

Elyria being the county seat or capital of Loraine county, was a stirring trade center, as was evidenced by crowds of teams in the street and the busy stores, especially on Saturdays, which, more than another day of the week, was market and shopping day for the farmers and their families.

"Baldwin's" and "Mussey's" stores were busy places. Wagon-loads of grain and farm products to sell, household goods and groceries to purchase made stirring times.

The Germans, of whom there were many, made themselves as comfortable at home as possible in the back part of

SECOND PRIZE.

Negative by Frank L. Silva, Brooklyn, N. Y.

these stores. There they ate their lunches as composedly as though they were in their own kitchens. I saw one day a kindly faced and friendly looking old German woman reach down and pull a clay pipe from behind her garter and commence her smoke as matter-of-fact and unhesitatingly as she ate her bread. She gave a picture of enjoyment pure and simple.

Elyria is an island held in the arms of the east and west branches of the Black river, which empties in Lake Erie at Lorain. These two arms of the river form a junction a half mile from the park and main business street.

To assert their charms in a picturesque showing, each wears a bracelet at the wrist in a dashing cascade before clasping hands at the junction. The beauty of these streams, the surrounding rocks, the rapids, the overhanging trees upon either shore and the rugged banks, are practically laid at the feet of this picturesque child of Ohio, whose charms are famous.

Artists from many studios visit here to sing praises to her beauty in sketches by brush and pencil. The richest and daintiest offering to the artist is here spread out for his pleasure. My fondness for the beautiful in nature found here much to feed upon. At evening before twilight I found my reserved front seat, which no one else disputed, and enjoyed to my heart's content.

On moonlight nights, when "Wils" Ryan, the miller, had shut up shop and gone home, I lounged upon the grass beside the old mill and enjoyed the fall with the sound of splash and dripping water continuous and soothing, indulged in waking dreams which led me pleasantly to Ithaca and the old Cascadilla, whose dashing water I so dearly loved.

A young man to whom I was drawn because of his "happy-go-lucky" nature, and who was so filled with sunshine that it seemed to radiate upon all who came within his reach, wanted to learn to make daguerreotypes, and I took him for a pupil. His name was Charles Park. He became a faithful student and ultimately took a prominent place in the ranks of photography as a skilful and successful practitioner.

We were congenial and as progressive as our opportunities permitted. As we were going in the same direction, we pulled well together. My three years' advance in the work gave me an acknowledged lead which he recognized and deferred to. When he became sufficiently skilled to work independently of me I sometimes sent him out to the smaller towns to give him a settled confidence in his ability.

On his return from one of these outings, of the money he brought in was a silver dollar he had received for a likeness. The coin had a history. The man who paid it to him was father to a family of eleven children, every one of whom had cut its teeth upon that coin. Park said the mother was very loath to part with it and made him promise to hold it for a time subject to exchange for another dollar which she would bring in.

Sure enough, she came the following week, a distance of ten miles, to redeem it, and was delighted that it had been saved for her. There was to be a school exhibition on the coming Saturday night, at this little village, the proud mother told us, and her eldest daughter, the first biter of the coin, was to take part in a play. So earnest was her invitation for us to come over we agreed to go.

HOW I TAKE PHOTOGRAPHS.

In the first place I have a camera — a camera, I said — one, not a battery of cameras, and some of the reasons for one are:

In the first place, it suits my pocketbook better to feed one than it would a small army. Secondly, when I go out to take pictures I can soon make up my mind which camera to take (as I just have one to decide on), and I do not have to think about the matter a whole day, and then, when I get to the place, find that the instrument I want more than any other is one of those I left at home — and by the time I have sent for it I have lost a chance that I was looking for; the light has changed or it has clouded up and is going to rain, or a hundred and one other little things that make out to bother the average amateur.

My instrument is a 4 by 5 size, which, by the way, is the only size to have, especially when you have only one camera. Smaller than that size is useless, and larger is like throwing a good deal of hard-earned cash away.

As only a small per cent of the pictures taken by amateurs could be improved by being larger, it will be found cheaper to pay some one to enlarge those few than it will be to use a large-size plate right along. An 8 by 10 can not pick out any prettier landscapes than a 4 by 5, and if you think that your pictures will be better if you have a large camera, you will find out sooner or later your mistake.

That one camera might be one of two kinds — a box camera, if you are going to do much street work or want an apparatus that will not take five minutes to get unfolded and ready for use, or a "cycle" camera or one that folds up in a very small space. The box camera is perhaps the handiest all-round affair that there is. You can carry about five double plateholders in it and it is always ready for use.

I would not advise the amateur to use films for two good reasons. First, they are from three to four times as expensive as plates, and, second, they are

Negative by J. C. Strauss, St. Louis, Mo.

much harder to work, that is, to develop and print from. Then again, with the box camera you do not need a focusing cloth, which in windy weather makes one use the last part of the word "focus" to express his thoughts.

About the only advantage a cycle camera has is its compactness when folded up, as it is more or less unhandy when opened up and ready for use.

As to the plate to use — well, there are plates and plates, and most all of them good. I have gotten some of my best pictures on plates that cost 30 to 35 cents per dozen, 4 by 5 size. I have also used the most expensive brands that there are and gotten poor results, so I do not think it is all in the plate, but sometimes in the fellow who takes the picture.

Now as to developer. Well, there are more kinds of developers than there are plates, and each manufacturer of plates is supposed to know what suits his particular brand of plate best and to give that formula with the plates, but I think that the pyro-metol is a developer that will do as its name signifies—"meet all." The formula that I use is as follows:

NO. 1.

Pyro	8 grains
Sulphite soda (crys.)	115 grains
Oxalic acid	1½ grains
Water	4 ounces

NO. 2.

Metol	30 grains
Sulphite soda (crys.)	115 grains
Water	4 ounces

NO. 3.

Carbonate soda (crys.)	304 grains
Water	4 ounces

To develop; Take 3 drams (3 teaspoonfuls) of each solution and 1½ ounces of water. It can be used stronger or weaker as wanted.

This combines the properties of pyro, which can not be disputed as *the* developer, with those of metol, the two making an ideal developer.

Now, as to exposing a plate, I would advise every amateur to get a copy of the "Photo-Beacon Exposure Tables," which are absolutely correct, and follow them. There was a time when exposure tables were looked upon as being too mechanical, but that time has passed, and they are now almost a necessity, that is, if you do not wish to spoil quite all of your plates by under or over exposure.

After developing, the simplest fixer to use is one-half pound hypo to one quart of water. Do not use alum with the hypo or you will be liable to get spotted negatives.

Before washing, put the negative in a solution of formalin (one-half ounce to one pint of water) and you will never be bothered with negatives frilling, such as they sometimes do in hot weather. Formalin is positively the best thing that ever happened in this line, and it should always be used in the summer time.

Now it sometimes happens that a negative is overexposed, and will not yield a contrasty print; in such a case an intensifier is a godsend.

Here is the formula of the best I have ever come across: Dissolve 30 grains of corrosive sublimate (bichloride of mercury) in 1 ounce of hot water; mark it "No. 1." Then dissolve 60 grains iodide potash in 1 ounce cold water and mark it "No. 2." Pour No. 1 into No. 2 until it just does not clear up (it should stay cloudy and of a reddish color). Now add 45 grains hypo, which clears it, and enough water to make the finished product measure 6 fluid ounces.

The solution is now ready for use and can be used repeatedly until exhausted. First soak the negative to be intensified in water for half an hour, and then place in the solution, and in from five to fifteen minutes, or when sufficiently intensified, remove from the solution and wash in running water for about ten minutes. When the negative is dry it is ready to print from.

You will be surprised how this simple treatment will improve a great many flat negatives.

Now, as to printing from the negative, I prefer the developing papers, Velox at the head, and as a developer that will not give brown spots when you force development a little I prefer Rodinal.

One part of Rodinal to twelve parts of water does the work equal to any other developer on the market, and is a great deal cheaper and easier to mix; simply add water and a few drops of bromide and it is ready for use. If you are using metol-hydroquinone or any other that you thoroughly understand, and that gives satisfaction — stick to it.

For the fixer I use four ounces of hypo to one pint of water.

You can add the acid hardener, but it is not always necessary.

After washing, if the prints are left to soak in a weak solution of glycerin and water for a few minutes (1 part glycerin, 10 parts water) they will not curl when dry.

Prints can be greatly improved by masking a white border on them, in squares, oblongs, circles and ovals, and mounting on gray or dark green mounts. W. M. Rickert.

SPOTTING.

Looking over some prints the other day, the usefulness of spotting was brought plainly to my mind by the presence of black dots and lines floating among the clouds of the pictures. The neglect to remove so evident a defect, which a child in the kindergarten ought to have accomplished easily, shows that we, as picturemakers, are very careless or else do not know the method.

Negative by A. M. Brumback, McMinnville, Oregon.

POPPING CORN.

In a case like the one above, where the surrounding film prints white, a little india ink, or even writing ink, will fill the clear glass portion of the negative so that it will all print alike.

For the occasional user, a bit of toothpick sharpened to a point and softened by biting will serve to transfer the india ink. The secret of success in all ink work is in having the ink in the brush the right consistency for the place to be filled. When too thin it dries in a dark ring around the outer edge; if too thick it works from the brush in chunks, is not absorbed, and easily brushes off. The best brushes are the No. 1 red sable. A good one, when wet and pressed against the thumb nail, will spring back to a fine point as soon as the pressure is removed.

In charging the brush the ink may be worked up on the finger nail or small piece of celluloid, which gives more space and a wider range of shades. Draw the point of the knife down each side of the celluloid with about an eighth of an inch of margin — press the margins down and center up, and slip it over the thumb. The ink will always be on hand when wanted. It is often well to have two, one for Chinese white to use in picture spotting.

The minute dust spots can often be filled with the retouching pencil when the negative is doped, but more generally the brush and ink are used, working the ink to the right consistency on the pallette, filling the smaller spots at one stroke. If it does not the ink is too thin and will soak into the film and draw the color from the center. In such a case allow the place to dry, then clean with the sharp-pointed knife or scalpel used in retouching, or the place may be made to print white, then spotted back on the print, where only a few prints are desired.

Large places are filled a portion at a time, giving each stroke time to dry before the next is placed beside it. Where the film has been removed this method gives too black-and-white effect between the strokes. By adding a little glue to the ink a large spot may be filled with it and allowed to dry, or the glue coated on first and spotted afterward.

When a large piece of film comes loose in developing it ought to be saved, fixed and washed. Just before drying replace the piece, first shrinking it in alcohol. Where this has not been done a section of the edge of the negative may be wet and a piece to fit the space

Negative by Dr. M. Houston, Joliet, Ill.

A DECEMBER TWILIGHT.

be removed. If it is a little too large the edges may be scraped down with the knife when dry. The knife must be very sharp, as a dull one will rub the surface of the film, causing it to print darker.

Brush work upon the film where long strokes are to be made, such as removing stray hair on a portrait negative, will soon be mastered with a little practice, as this work is done after all that can be placed on with the pencil has been added, the film is harder and the ink may be used thinner.

The amount of spotting required on the prints depends largely on the way the negatives have been spotted and how clean the printing-room has been kept; and I am sorry to say that in cheap galleries, where the printing-room is carelessly kept, little or no spotting is done. In this respect, spotting does not divide, like retouching, the professional from the amateur, but the good workman from the poor.

Weak negatives may have the shadows strengthened, but great care must be used in touching the pupil of the eye or its expression will be changed. The eyebrow is often lost on one side either because of too strong lighting, or worked out to straighten it, and only partly replaced with the knife on the negative. The reducing of a high light which is too prominent requires some skill, but as most pictures nowadays are made on collodion matt papers the ink can be removed and another attempt made. On the gelatin pictures I prefer to spot before burnishing and sinking the color well into the print so that it will not be knocked off.

The edges often need our attention, as they are rough or broken. Here the ink sinks readily into the backing paper and will not come out. The knife may have to be used. Its principal use is in removing black spots, which are generally caused by iron in the water. The spotting back of the high lights on the wrinkles, or a stray stroke of the retouching pencil go far toward making a finished print.

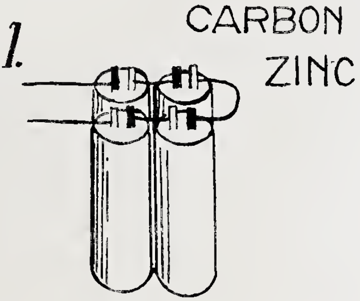
As one is only bounded by their task and inclination in the matter of spotting, I have only opened the door. Walk in.

Some may be like the professional who said, "I do not make sketches out of my prints." G. W. Bucklin.

AN ELECTRIC FLASH-LAMP.

The directions for making a flash-lamp suited for interiors and out-of-door work are given below. Make a box out of ⅜-inch walnut, large enough to hold four dry batteries and a spark coil. The box should be large enough so as to have ample room for connections. A close-fitting, neat-looking lid should be made for the box. The four dry batteries should be connected in a series, i. e., zinc to carbon (Fig. 1).

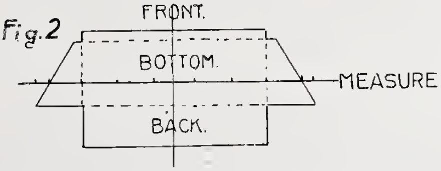
Fig. 1.



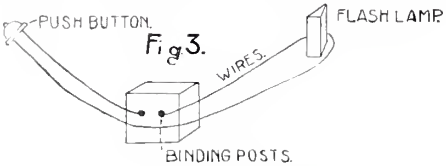
The two terminal wires should be fastened to the spark coil and the ends of the two wires from the spark coil should be fastened to two binding-posts at the front of the box. The box is now finished, so we will go to the making of the flash-lamp proper.

Get a piece of tin or sheet iron (the kind used in the manufacture of stove-pipes) 7½ inches long and 3¼ inches wide. The bottom of the pan or tray is to be 5 inches long and 2 inches wide, the front is ¼ inch in height and the

Fig. 2



back is 1 inch in height. The two sides should be cut as shown in drawing, Fig. 2. The four sides should be bent up and the corners soldered together. A 20-foot piece of flexible copper wire must be bought and cut into two pieces, five feet long and one ten feet long. The lamp is now finished with the exception of the two wires which produce the spark. They should be inserted in two holes, one at the front and one at the back, about 1/8 inch from the bottom. The wires should be so well insulated as to allow none of the electricity to escape into the pan, and should project far enough in that the ends of the wires are not more than 1/8 inch apart. The next thing to get is a push-button (cost 10 cents), upon the bottom of which the ends of the 5-foot piece and the 10-foot piece of flexible wire should be fastened.



Connect the other end of the 5-foot piece to one of the binding-posts on the box and the other end of the 10-foot piece to one of the wires on the flash-lamp. The one end of the other 5-foot piece must be fastened to the other binding-post and the remaining end should be attached to the remaining unattached end of the wire on the flash-lamp. If this last part can not be understood, it will be clearly seen in Fig. 3. The flash-lamp should be fixed on a stand, something on the order of an iron music stand. The push-button can be laid on the top of the camera, and when taking a picture press the button and bulb at the same time. ARTHUR LIGHT.

PERMIT me to say that THE PHOTO-BEACON has been my greatest help in amateur photography; had but very little success before taking the magazine; each successive number brings something new and helpful. Could not get along without it. R. C. BALLSTADT.

HOW TO MAKE A HOLDER FOR FIXING 4 BY 5 GLASS PLATES.

I have been much interested, and have received a great deal of valuable information from the "How To Do Things" department of THE PHOTO-BEACON, and if the apparatus that I describe shall help some one of the many PHOTO-BEACON readers, I shall feel that I have paid in part for some of the ideas that I have taken advantage of.

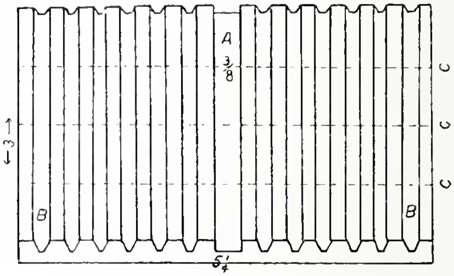


FIG 1.

HOW IT IS DONE.

First buy of your grocer a one-gallon stone jar (mine cost 25 cents), fill it nearly full of the fixing bath (I use an acid bath, the formula of which is found in any package of Velox paper; it works quickly and leaves the film hard and clear).

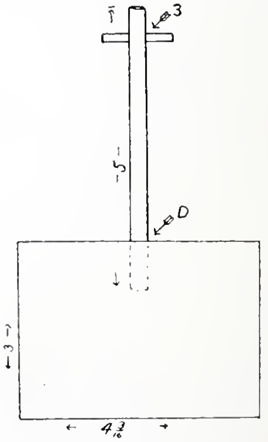


FIG. 2.

Get a piece of soft pine board about 12 inches long, 4 inches wide and 3/8 inch thick. From this saw a piece 5¼ inches long and 3 inches wide, as per Fig. 1.

Now make groove A in center, ⅜ inch wide and 3-16 inch deep, and saw in the V grooves B, making six each side of the center, and being equal distances apart.

Care should be taken to saw the grooves square across the board; sandpaper them smooth.

Draw a pencil mark across one end for future reference.

Now saw on dotted lines C into four equal parts.

Saw out another piece 4 3-16 inches long and 3 inches wide (Fig. 2).

Bore ¼-inch hole D in center of edge and plane or whittle a stick 5 inches long to fit the hole, fasten in place with small wire brad.

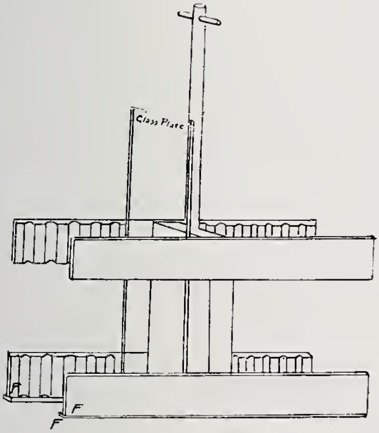


FIG. 3.

Bore small hole 3 and put in hardwood pin to answer for handle.

Now with slim brads about ¾ inch long nail the pieces from Fig. 1 to corners of Fig. 2, having the ends with pencil mark all one way in order to have grooves match each other. Saw two thin strips 5¼ inches long, ½ inch wide and ⅛ inch thick, nail these to under side of bottom grooved pieces F to prevent plates from dropping through.

The holder should now look like Fig. 3, and is ready to use.

Place in jar and put cover on. If the handle is too long cut it off just enough to allow cover to shut. This will hold it down, and is necessary on account of holder being made all of wood. Two or three plates will hold it down. If the work has been properly done the plates will drop into place easily.

After the plates are developed drop them into grooves and let them remain until all are fixed. Then the holder can be removed and placed in pail under faucet, and the plate thoroughly washed.

If you like they can remain in holder and dry, but I prefer to use a drying rack.

I find that I reduce the time of running off a batch of plates nearly one-half, and get better results.

W. H. MONROE.

KODAK PROGRESS COMPETITION.

We would draw special attention to the advertising pages of the Eastman Kodak Company in this issue, in which is given some particulars of a great photographic competition to be held under the auspices of the company. No less than $4,000 is offered in prizes, ranging in sums from $150 to $5. This competition ought to be the big event of the photographic year, and every amateur photographer ought to get into training at once, so as to take part.

The most interesting phase of a competition such as this is not the chance of gaining a prize, but the incentive it gives to improve quality of work, resulting in the contestant being possessed of a skill in technic and pictorial taste that in all probability he would not have acquired if he had not entered the race. For that reason alone we would urge every one of our readers to take part, and hope that many of them will be able to earn something that will demonstrate their prowess.

HOW TO GET GOOD TONES ON SOLIO.

One of the difficulties which I ran against in my first struggles was the one of getting artistic tones on Solio or other gelatin papers. The combined solutions gave tones which I did not like, and were rather expensive. After reading every formula I could find, and trying them all, I finally got what I wanted

— beautiful dark purple tones, with clear, pearly whites, and this is how they are gotten.

Buy fifteen grains of chloride of gold, dissolve in fifteen ounces of water, put in an amber or dark colored bottle and cork tightly — cost 45 cents. Buy one ounce of acetate of soda, dissolve in twenty ounces of water, bottle and cork well — cost 10 cents. These solutions will keep indefinitely.

To make the bath take one ounce of gold solution, dilute with eight ounces of water, add one ounce of the soda solution, and let it stand for a few hours. This will tone from twelve to eighteen 4 by 5 prints. Should it need strengthening for the last prints, add more soda and gold in equal quantities, as you may find necessary. This bath does not keep well after being mixed, but as eight ounces cost but 4 cents you can afford to throw the used bath away.

Now print your pictures rather deep, as they will bleach slightly in the fixing. Wash at least fifteen minutes before toning to avoid red streaks. (I pin the prints around the sides of a bucket, using one pin at the extreme edge of each print. Run a piece of hose from the hydrant to the bottom of bucket, throw an old carpet over it to exclude light, and let them wash.) After they are washed put in toning bath, and do not remove too soon; let them darken, then remove and fix in hypo one ounce, water twenty ounces, for twenty minutes. Repin in bucket and wash one hour.

VICTOR POWERS.

EXHIBITION OF ROTOGRAPH BROMIDE PRINTS.

From January 2 to 16, inclusive, 1902, there will be held an exhibition of prints on "Rotograph" bromide paper at the rooms of the Camera Club, 3 West Twenty-ninth street, New York.

The pictures that were successful at the recent "Rotograph" competition will be on the walls, together with many others of merit. The exhibition as a whole will come as a surprise to most photographers who have but little faith in the possibilities of bromide papers for artistic purposes. Better proof than this show of the exceeding adaptability of "Rotograph" bromide to *all* kinds of work could not be given, and amateurs and professionals alike are earnestly requested to visit the rooms some time during the exhibition.

Prints in black and white, in sepia, in toned effects, new school style, old school style, professional portraiture and amateur productions of every kind are represented.

EDITORIAL TABLE.

DURING the past year we have had much pleasure in reviewing two very interesting books, consisting principally of photographs from nature, by Rudolph Eickemeyer, Jr., and it is now our pleasant duty to notice a third from the same source. In "The Old Farm" he has scored his greatest success. Here we have over eighty beautiful half-tone reproductions of farm subjects from his negatives, any one of which is an interesting study in composition over and above its great human interest. The cover of the book happens to have a particularly fine example of spacing, and out of curiosity's sake one of the editor's boys, aged eleven, had explained to him the general idea of spacing as exemplified in this picture. He caught the idea at once, and proceeded to analyze every illustration in the book. He happens to have the artistic temperament rather well developed, but for the first time he found definitely expressed in words what he had formerly vaguely felt. If for no other reason than as studies in composition it is worth a place in every photographic library. It is published by R. H. Russell, 3 West Twenty-ninth street, New York.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

Negative by J. W. Anderson, M.D., Washington, D. C.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. FEBRUARY, 1902. No. 2.

PHOTOGRAPHIC SOCIOLOGY.

What can sociology possibly have to do with photography will doubtless be the very first question that will jump to the mind of the average reader when he notices the above title, and the answer is that as the science of sociology considers man in every one of his social relations, it must therefore include human beings as far as they are interested in the art of photography.

Sociology considers the individual only so far as he is the member of a group, and thus differs from theology, which considers him practically as an individual, and the most interesting fact or generalization that the study of this new science has evolved is this: that as individuals we are rather unimportant, that the environment or group to which we belong practically determines for us our mental, religious, moral and political attitudes. Our intelligence is very largely fixed for us by the mental caliber of our parents and associates, our religion and politics by our ancestry, and our morality by our family and associates. No one of us, however, belongs entirely to only one group. At one moment we are associated with the family, in another sphere of interest we are members of church, political or literary organizations. Sometimes we live in one city and sometimes move to another. The consequence is that we are always receiving new impressions and these tend to modify the opinions and ideas that we have previously held. So that at any particular moment our mental and moral make-up is practically the result of all the impressions that we have received during our previous life.

Proceeding from generalities to specific cases, the average photographer, whether amateur or professional, is as much the victim of his environment as is anybody else. His taste in pictorial qualities is determined for him by others. The standard of art in a Polish community in a large city is vastly different from what obtains among educated native-born people, and so the professional comes to look at his work through the eyes of his customers. The amateur has for his standard that of the best photographs he has seen, and if he has never seen really good work he can not possibly be anything but a commonplace worker. He may have aspirations of the very highest, but unless his environment be suitable, they can never possibly be realized.

Instinctively, the man with ambitions has realized the truth of this proposition, and so in many communities amateurs have banded themselves together for mutual help and encouragement, knowing that in the conflict of opinion new ideas would be evolved. The professional has organized his conventions and every progressive worker makes it a point to visit at least one in the course of a year; in other words both the amateur and the professional voluntarily change their environment for a brief space of time so as to get the benefit that comes from new impressions.

The power of the printing-press has been greatly appreciated during the past half-century and has wielded incalculable influence on the development of the human race, simply because it has brought every one in touch with outside environments that are physically beyond his reach and so tends to knit the millions into one vast group, and will ultimately help to make universal such great mental, religious, moral and political ideas as will prove most conducive to the welfare of the human race.

The practical application of what we have just learned is that any individual who is desirous of progressing must be in touch with more than one environment. He must be associated with more than one group, for the stay-at-home man is bound to develop into a mental fossil. The rolling stone may gather no moss, but what good does the moss do the stone? The polish resulting from contact is what gives the lasting value to the diamond, so the photographer, whether amateur or professional, must, if he desires to develop, get himself in touch with as many different phases of photographic thought as he can possibly reach. He must, if possible, join some association of kindred spirits; he must see what is being done in other parts of the country, either by travel or by the bringing into him of new ideas through literature.

F. DUNDAS TODD.

PICTORIAL COMPETITION No. 44.

To my mind the flower competition belongs to the same category as do the branch of a tree without leaves and a branch of a tree with leaves; that is to say, flowers have in them great possibilities of decorative arrangement. Unfortunately, the majority of those who take part in these competitions have not caught on to this idea, and they seem to think the most important thing is to render the flower with the greatest possible technical skill. The latter is, undoubtedly, very important, but the matter of decoration ought to be paramount.

In the first prize picture we have not only the blossoms and leaves beautifully rendered, but we have, as well, great variety in the spacing of the area by means of the flowers and their stems, hence its success.

Any one can see at a glance the decorative arrangement in the second prize picture. The subject is of the very simplest, but its success is attained by decorative arrangement pure and simple.

The third prize picture is very weak in its technical qualities, but it won out on its merits as a piece of composition.

PRIZE WINNERS.

First prize — Joseph W. Anderson, M.D., 1321 T street, N.W., Washington, D. C.

Second prize — John W. Schuler, 100 Park place, Akron, Ohio.

Third prize — James E. Taggart, Delaware, Ohio.

PARTICULARS OF WINNING PICTURES.

First prize — Made by light from side window on Cramer medium iso, with stop 16, exposure 12 seconds; printed on Willis & Clements Platinotype.

Second prize — Made on Stanley plate, 1 second exposure, with stop 32; printed on platinum paper.

Third prize — Made on Cramer instantaneous iso, with stop 128; printed in green carbon.

FUTURE COMPETITIONS.

Competition No. 46— Lantern slides, any subject. Closes February 28.

Competition No. 47 — Snow pictures. Closes March 31.

Competition No. 48 — General competition, any subject. Closes April 30.

Competition No. 49 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 50 — Domestic animals. Closes June 30.

Competition No. 51 — Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 52 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 53—"At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying, a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.
2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompany prints.
3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

I LIVE on a farm near Washington, Missouri, and began taking pictures January 1, 1900. The first year I studied hard, but had little success; after that time my work improved a thousand times. Why?

Because January 1, 1901, I did these things:

I bought and studied your "First Step in Photography"; I did likewise with your "Second Step in Photography," also the "Photo-Beacon Exposure Tables," and I subscribed for THE PHOTO-BEACON.

Negative by John W. Schuler, Akron, Ohio.

SECOND PRIZE.

Now if there is any amateur photographer who has the same trouble I had before last January, let him or her do as I did, and all will be well.

GEO. KRUMSICK.

AT HOME PORTRAITURE.

Amateurs find most difficulty in their way when trying to make portraits, because of the lack of knowledge of posing the subject, and also because the source of light, in ordinary rooms, is mostly against portrait-making.

I will here try to explain how I have succeeded in making very fine portraits.

Select a room with as nearly as possible southeast exposure. I take for granted the room has only two windows. Buy four roller-shade fasteners and place two at the bottom of each frame in such a way that you may take down the shade and place it upside down in the fasteners, at the bottom. Secure two small rollers, one for each shade, in the middle of the top of the window-frame, to pass the cord through so that by pulling the cord the shade will rise up from the bottom and can be fastened to the side of the frame on a nail or hook (Fig. 1). It will not be much trouble to replace these when not in use for this purpose.

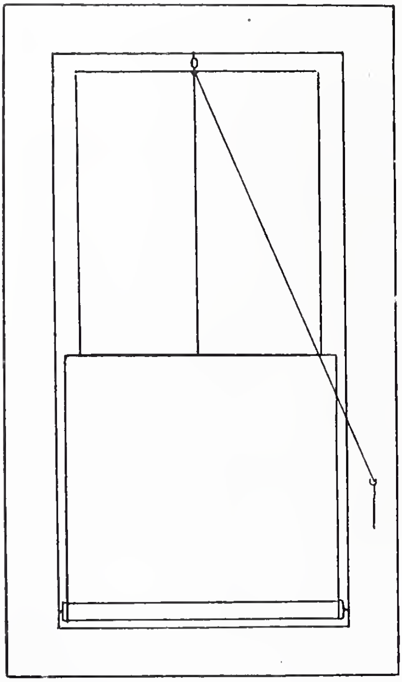


FIG. 1.

After the shades are in place pull the one farthest from the sun all the way up, place your subject about six feet from the wall, and at an angle of thirty degrees with the window nearest the sun (see Fig. 2); raise this shade high enough so that the light from the upper half will throw the shadow of the nose on your subject half-way down on the upper lip, turn the subject's face enough from the light so there will be a line of shadow along the nose. When in this position let the subject turn the eyes to the light until the catchlight shows plainly in them. They should appear right below the upper eyelids. Place your camera at best advantage between the middle of the two windows and the one that is entirely shaded (see Fig. 2).

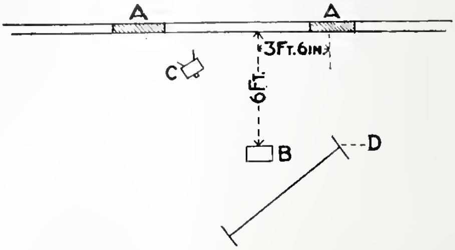


FIG. 2.

JULIUS C. ENGELHART.

THE KODAK GIRL.

She is delicate and sweet;
She is pretty and petite;
Her hair is either fluffy or in curl;
And a man with any taste
Would go far to clasp her waist;
While her dainty ankles make your senses whirl.

When I see her calm and bland
With a Kodak in her hand
Prepared to take a snap-shot, sun or rain,
My eyes have snapped her face
In its witchery and grace
And have printed it in colors on my brain.

How I hope that in her glee
She has had a shot at me
With the Kodak which she carries in her hand.
For I know my photograph
In her eyes will loving laugh
When she puts in on the mantle in a stand.

—*William E. S. Fales, in the Journalist.*

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER II.

ARRANGEMENT OF GROUPS.

In the first chapter I considered a single phase of variation as applied to the spacing of a bust portrait, and in this paper I shall attempt to show how the same principles hold true in regard to the arrangement of a portrait group.

A successful composition of this sort is very difficult to make, as every photographer knows, but it brings us one step nearer the composition of genre subjects, which is, of course, the highest form of composition. However, this, as well as landscapes, I shall consider later, and hope to print a number of top-notch photographs in this connection.

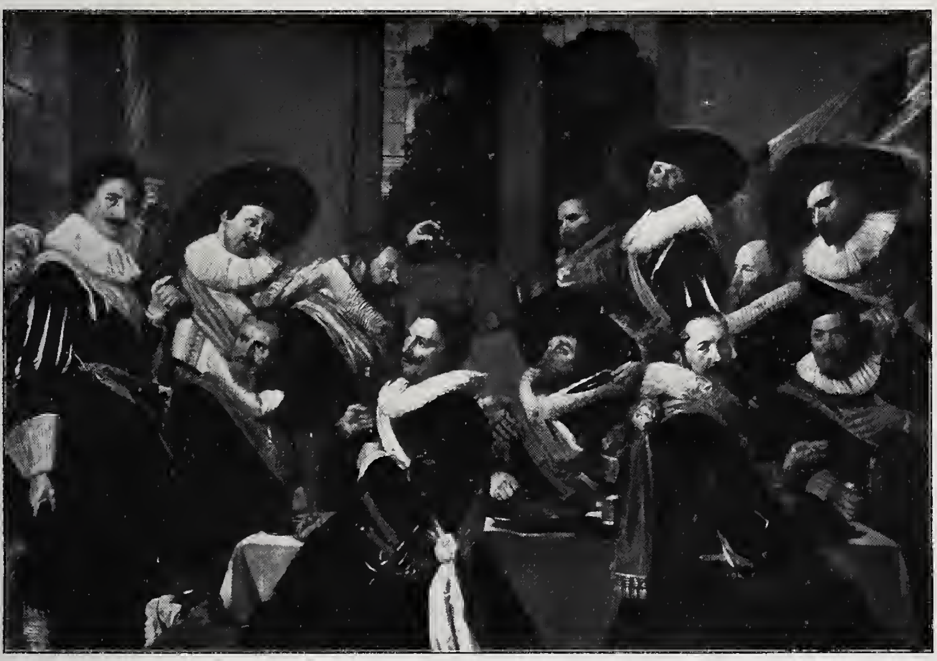


Fig. 5.—After Hals.

This group by Hals was painted in his transitional period. The composition is scattered and commonplace, and there is nothing of the quiet, satisfying dignity so characteristic of Rembrandt's work. Hals at this time was varying his figures in pose only. There is very little variation in spacing, while the light is equally distributed over the picture.

We discovered that variety in space alone, as applied to a single portrait, made it more beautiful, and if this is true of a single head where the opportunity for space as well as light and dark variation are so limited, it ought surely to be even more so with a group of several figures where, with skill and care, we can carry this scheme of variation to much greater lengths.

In arranging a group of several figures we have to consider the very important element of line and balance, but in this paper I shall only consider the variation of spaces and light and dark. The first consideration should be in regard to the spaces between the heads themselves. Do not leave them all equally distant; vary the planes as much as possible. That is, avoid placing them in even rows.

If we wish to make one figure more important than the others, give it a little more space; not square in the center, but a little to one side. The whole should be arranged so as to get a very pleasing variation in all the spaces, not only between the figures themselves but with relation to the boundary as well.

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* Copyright, 1902, by F. Dundas Todd.

Now as to the lighting. The figures in the rear of the group should be low enough in tone to keep their places in the background. The skilful variation of the dark and light in a composition is a very important subject, and I shall consider it later on at some length; but, for the present, suffice it to say that the light should not be equally strong on the entire group. The varied poses of the different figures will take care of this detail, but not a little skill will be necessary to get a good head in each instance. What I wish to make clear is, how to avoid the stereotyped group picture, where the entire crowd is arranged in several even rows, all looking straight ahead.

If I could take you to see the collection of Franz Hals' portrait groups in the Municipal Museum at Harlem, we could walk right down the line where his paintings are hung in chronological order and we could see where his great mistake in composition was made in his early life and note his progress in this very thing.

When this old master first began to paint these groups of burgomasters, he was doubtless unknown and had his bread and butter to make. It is very probable that Hals did not have everything his own way. His early paintings of this kind look as if each burgomaster wanted to be in the front row, and, if forced out of this prominent place would in no case suffer himself to be toned down in shadow. Furthermore each seemed anxious to get both his hands and feet into the picture — if possible — as evidence that he had them, I suppose, so it is quite possible that Hals would have liked to suppress some of these figures if he could have done so, and that it was only possible to do it in later years when his reputation was established and he could do just as he pleased.

Hals may or may not have been bothered in this way, but his progress and example in this regard is unique. In his first group, as I have said, all the figures are equally important, all painted with his marvelous skill, to be sure, and if cut up and framed as separate portraits, each would be perfect; however, as a composition, it is no better than the family group of the country gallery. Hals gained knowledge and experience as the years rolled on, and in 1628, we find a change, only slight at first, but for the better. He commenced to vary the pose as well as the spacing of the figures and put those figures in the background in a slight shadow. He saw the beauty of this and I think it must have been apparent to even the laymen of his day. A few years later we find him giving very careful attention to the variation in pose, spacing and light and dark.

In the early portraits the figures were all posed along in two rows one above the other, like pickets on a fence. All the faces were in full light and an equal or nearly equal space between each one. Of course they were stiff. I can think of nothing to liken this sort of composition to except the arrangement of the babies one throws at, at the county fair; "three balls for a nickel." "If you knock one down you get one cigar; two, you get two cigars, and three, you get three cigars."

As he progressed he varied the spaces between the heads as well as the pose of the different figures so that each one had an individuality. The figures in the background were put down in shadow until they took their place.

Hals grew so fond of this trick that in one of his last paintings — a group of women — he put an old lady nearly out of sight.

I will publish in connection with this article, Rembrandt's burgomasters in the Rijks Museum in Amsterdam. This is a very simple, dignified arrangement, with little attention paid to anything but the pleasing spacing of the heads themselves.

In my Detroit paper, I said: "Composition is the art of so arranging the objects to be depicted that the eye should be led into the picture and centered on the important thing; or such a combination of spaces with their varied lights and darks as to make a decorative whole." Now I have not the effrontery to say this is absolute, for art knows no dogma. I only say this is what composition means to me. Composition is made up of many things, but in the case of a group portrait there should be no special point of interest, unless it is the picture of a celebrity with servants or under officers. No striking dramatic qualities are called for and it seems to me that this burgomaster group of Rembrandt's is perfect in this regard. The figures are varied in every way, space, light and dark, and line. No one is conspicuously sacrificed for the benefit of another and yet they are all so varied in treatment that they do not give a sense of monotony, like the babies at the fair. A group of this character is perfectly possible in photography, and with a little care could easily be accomplished.

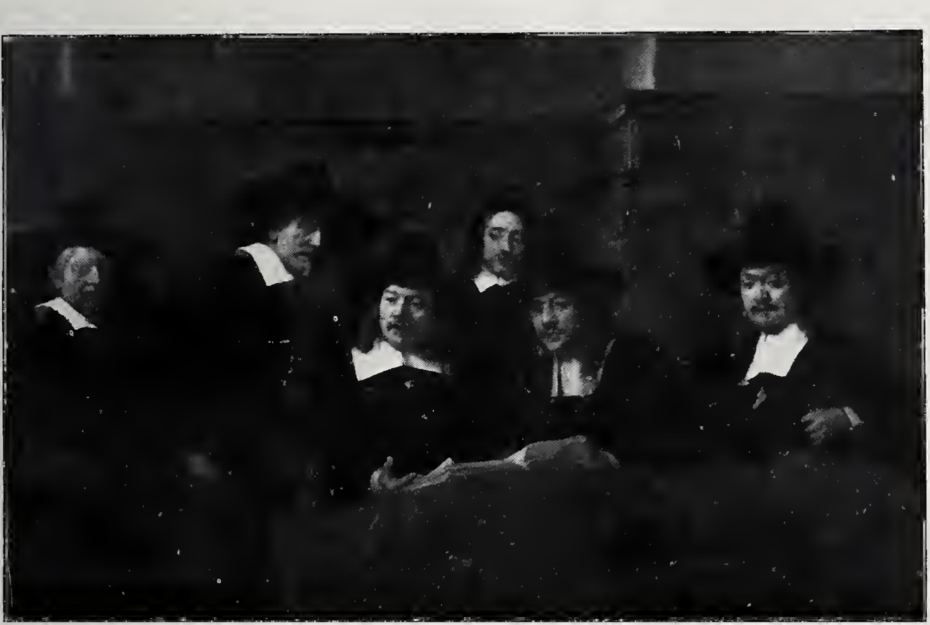


Fig. 6.—After Rembrandt.

Of course the element of line is a very important factor in the composition of a group portrait and can be used with effect, but I shall save this for the next chapter, where I will deal with it more fully.

Now I know that in everyday work the photographer will encounter as many obstacles as a painter in making people understand what is good. I can hear a howl coming from the professional photographer, saying, "You can not do it," etc. I know as well as you that when a bride comes into your studio with all her bridesmaids, to have their pictures taken together, the picture will be voted a failure if every face is not equally clear. Mary Jones sees no reason why she should be all "dark and horrid," while Jennie Smith is in front in full light; and these very pictures, I regret to say, as a rule, resemble the babies at the fair; yet they could be made very beautiful pictures. I say you can do it. You could not sell the best thing that ever was made to some people, but nowadays there are people of taste everywhere, and at the pace the photographers of this country are going, it will not be long before you can not sell anything that is not good. Some of your patrons will never know or appreciate a fine thing. I have very little faith in the artistic discrimination of the laymen, but just as soon as it becomes the mode, they will want it, do not worry.

X-RAY TABLE.

NEW YORK, Dec. 16, 1901.

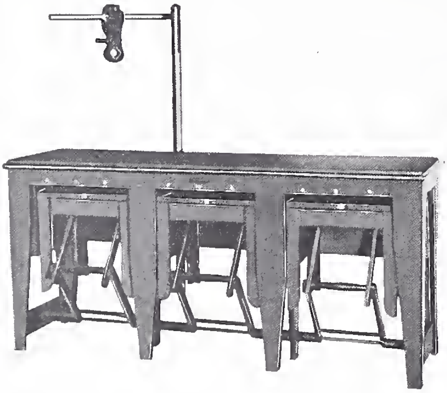
Mr. F. Dundas Todd, Chicago, Ill.:

DEAR SIR,— We enclose you prints of a special X-ray table that we have just completed for Dr. A. B. Johnson of this city, which has proven very satisfactory, and may be of interest to your readers as an item of scientific news.

The table is 6 feet 6 inches long, 20 inches wide and 34 inches high, and is arranged to take three 14 by 17 plates, or, with the aid of kits, any smaller size plates.

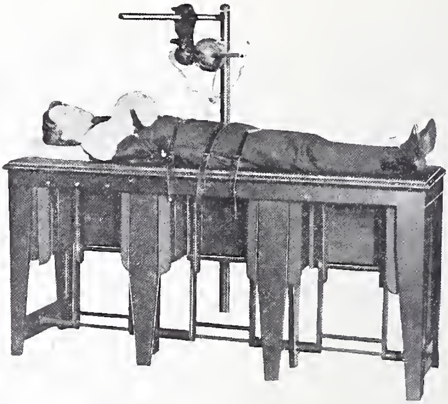
The plates are raised up into position and the face of the plate brought within one-eighth of an inch of the subject, by means of raising and lowering platforms operated with knee-joints, as shown in the print. When the knee-joint is drawn forward the platform is lowered, allowing plate to be removed and another put in its place. When the joint is straightened the platform is raised up, bringing the plate up even with the surface of the table.

The top of table has three apertures 14 by 17 inches, and is covered with a special heavy quality of canvas with an upper layer of imitation leather, which is drawn very taut, and is of sufficient strength to support the subject when the platform carrying plate is lowered. Underneath this canvas covering on top of table we use felt 3/8 of an inch thick, as bedding.



The upright post with arm carrying Crook's tube is held rigidly in sliding carriage at the back of table and is adjustable up or down, and may be swung from one side to another. The sliding carriage runs between guides and may be shifted from one end of the table to the other and locked securely into position. Both the upright and arm are scaled in inches so that any height may be determined at a glance; also the shifting of the tube.

Our X-ray table makes it possible to take three 14 by 17 negatives, and then, by shifting the subject 6 inches on the table, three more may be taken and joined together, giving a full panoramic view of a full figure.



Yours very truly,
THE FOLMER & SCHWING MFG. CO.,
W. F. FOLMER, President.

ANY of our readers having extra fine negatives of interesting subjects made with lenses manufactured by the Bausch & Lomb Optical Company, Rochester, New York, would do well to communicate with them, stating size of negative and subject of picture; or, better still, send a specimen print on approval, as a new catalogue is in preparation and the company desire to secure as large a variety as possible of photographs illustrating the special advantages of their different series of lenses. Kindly write or send prints at once, as the catalogue is now well under way. Address Advertising Department Bausch & Lomb Optical Company, Rochester.

ISOCHROMATIC PHOTOGRAPHY.*

BY R. JAMES WALLACE.

CHAPTER I.

LIGHT AND COLOR.

In entering upon this series of articles explanatory of the principles and practice of "orthochromatic" or "isochromatic" photography, it is my intention to start from the very beginning of the subject, assuming that the reader knows absolutely nothing beyond the ordinary practice of negativemaking — exposing and developing — and should this method appear to some to be unnecessary, I beg their indulgence for the sake of the many others who do not know, feeling that, in justice to the subject, this is the only course to pursue. My aim is to make this series a fairly complete record of experiments that will serve not only as a guide to the beginner but for reference to those who are more advanced.

Starting thus at the beginning of the subject, I shall first consider the phenomena of light and color, but only in so far as they concern the photographer, passing over everything which deals with the wave and undulatory theories as being beyond the scope of this series, and which can readily be found by the student in any book on physics and will therefore plunge at once into the analysis of light known as the spectrum.

When a beam of white light is passed through a prism it is spread out into a colored band containing six distinct colors, as follows: red, orange, yellow, green, blue and violet. Some writers claim seven colors and add "indigo" between the blue and violet, but as this color is simply a deeper and darker form of blue, showing but little difference from the color preceding it, and as the object of this article is to simplify as much as possible, we shall consider the spectrum as composed of the six colors already mentioned.

Now these six colors are not definitely separated or divided, but merge imper-

Negative by J. H. Field, Berlin, Wis.

WINTER.

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* Copyright, 1902, by F. Dundas Todd.

ceptibly the one into the other, so that it is practically impossible to state where the one leaves off or the other begins. This may be observed by passing a beam of daylight from any small opening through any kind of glass prism.

If the light be taken from a very narrow slit the spectrum is found to be very sharp and clear, and furthermore, it is seen to be characterized by the presence of a number of dark lines or bands which are known as the Fraunhofer lines (from the name of their observer) which cross the spectrum at right angles to its length (Fig. 1), and which serve as markers or milestones to instantly point out position in any spectrum under observation. It is sufficient to state that these lines are always present in the spectra of sunlight; always exactly in the same position and distance from each other. What they indicate it is not necessary to explain here.

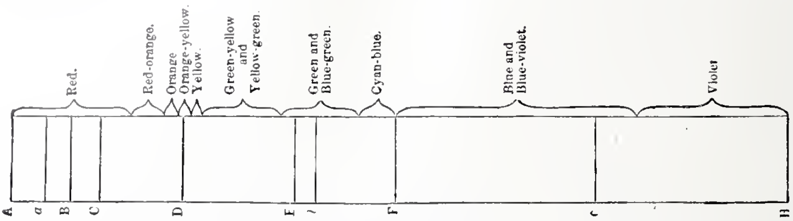


FIG. 1.

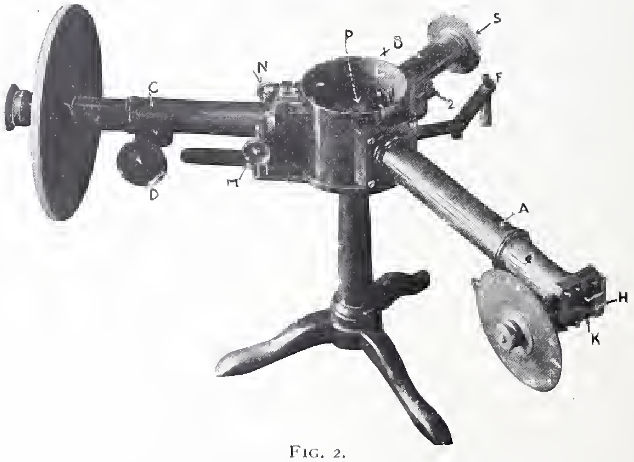
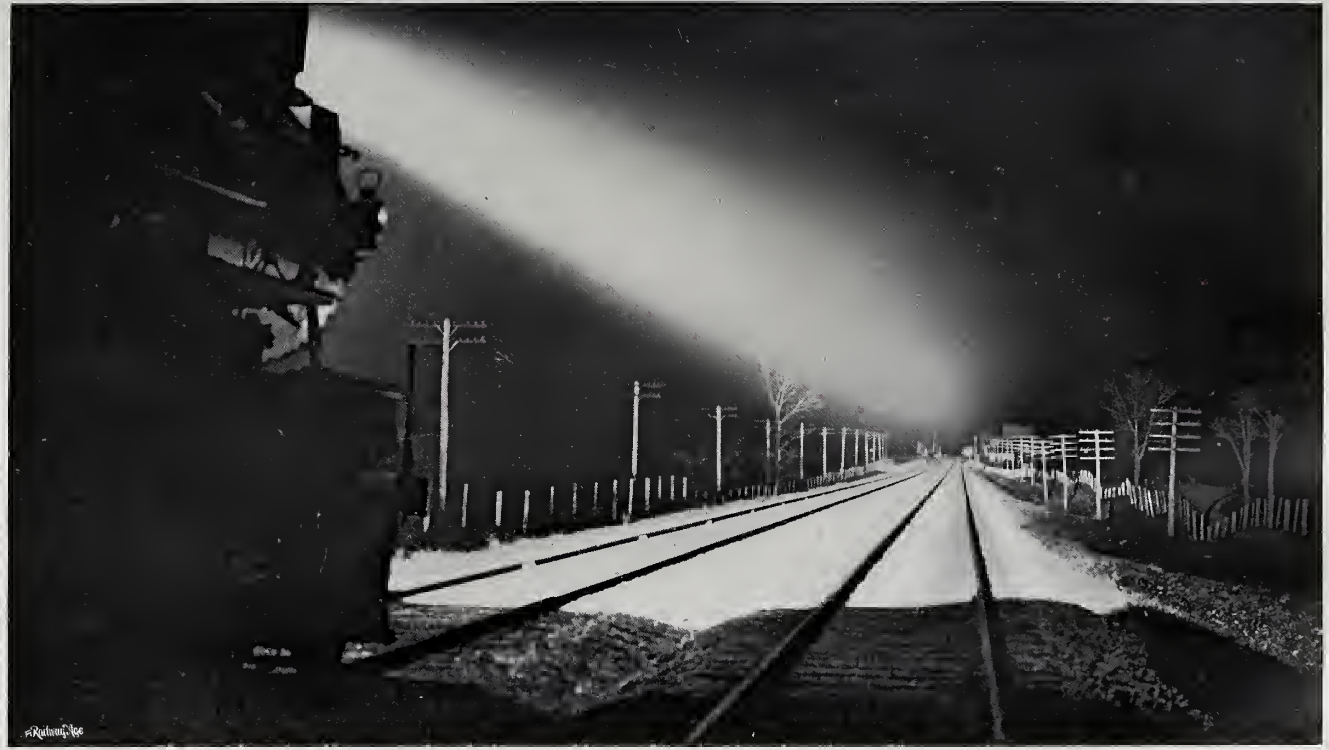


FIG. 2.

The instrument for visually observing the spectrum is known as a spectroscope. Fig. 2 is from a photograph of one of the instruments in my laboratory with which most of my visual spectroscopic work is done. It consists of three tubes entering into a central chamber (from which the cover has been removed to show the prism). *A* is the collimeter or slit tube through which the light passes and is focused on the prism *P* by a lens which is held at the inner end of the tube. *B* is the scale tube with its illuminating burner *F* and bears *S*, which is a very small millimeter scale divided into tenths, which is also focused upon the prism (rear surface) by a lens *L* in its own tube, while *C* is the telescope with its focusing screw *D* for the observation of the spectrum as it emerges from the rear surface of the prism, together with the reflected scale. There is further an additional small prism *H*, fixed immediately in front of, and in contact with, the outer surface of the slit plate *K*, the use of which will be described later. *N* and *M* are screens



Negative by W. H. Shuey, Chicago.

ELECTRIC HEADLIGHT VIEW.

This picture, taken by the headlight of one of the engines on the Rock Island Railroad, will give some conception of the intensity of the electric light carried by these monster machines, as it clearly shows objects at a distance of over half a mile. The exposure was eleven minutes.

for moving the telescope in the observation of special portions of the spectrum.

Although, as has already been stated, the Fraunhofer lines serve to record any particular place or position on the spectrum, yet this only serves when the spectrum considered is that of daylight, for in the spectrum of artificial light the lines are absent and the appearance presented to the eye is that of one unbroken colored band, and as it would, under those circumstances, be impossible to specify or particularize any one position, the reflected scale is used instead, and before beginning work this scale is carefully adjusted by the screws *X, X2* so that the line marked 5.0 is exactly coincident with the *D* or Sodium line, that all readings may be directly comparable the one with the other.

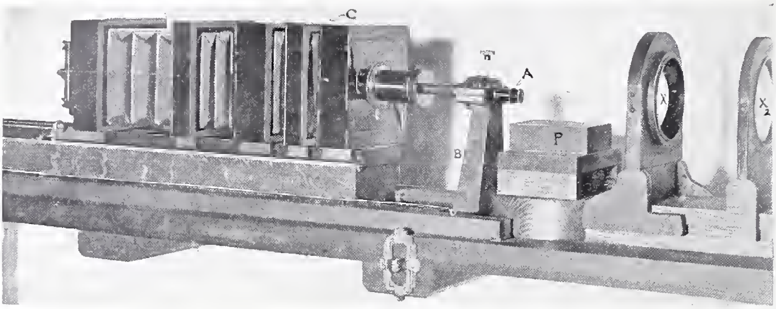


FIG. 3.

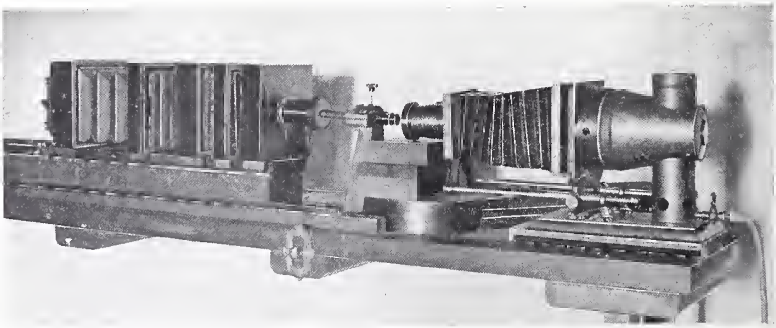


FIG. 4.

Although this instrument is one of the very best for visual work, yet the combination of lenses in the observing telescope is altogether unsuited for work of a photographic nature, to say nothing of the cumbersomeness of the apparatus, so I use for this latter purpose a direct-vision spectroscope which is readily adapted to the camera and is shown in position in Fig. 3. *A* is the spectroscope and is held firmly by the solid brass base *B*, and entering directly in the center of the lens which projects the spectrum upon the ground glass of the camera *C*.

The direct vision spectroscope, Fig. 3, differs from that of angular vision, Fig. 2, by its containing a combination of five prisms of flint and crown glass alternately. By these the spectrum is projected in a straight path parallel to the length of the tube, and once a sharp focus is obtained, one may reflect a strong beam of sunlight from a heliostat (which is focused upon the slit by the lenses *X* and *X2*) and make a preliminary exposure upon a sensitive plate. If the instruments be now clamped down in the same position, incandescent gas or any other source of light may be used for further experiments, the first exposure giving the record of the Fraunhofer lines to serve as "finders" for all following.

In Fig. 4 I show the arrangement used by me for incandescent gas. The two condensing lenses *X* and *X2* with their carrying board are pivoted and swing aside out of the way, while their place is taken by the projecting lantern which has the lenses arranged for a small parallel beam of light of great intensity that falls directly upon the slit. It is with this latter instrument arranged as in Fig. 3, that all the spectra used in the illustration of this series were made; no extra care being taken to render the lines microscopically sharp but only sufficient to give the principals.

One other device which has been used is that of a brass cap which fits cleanly but loosely over the slit of the spectroscope and which is pierced with a circular opening which is again divided in half by a tongue of metal on the inside. In use this cap is placed upon the front of the spectroscope, and the projecting tongue of metal being vertical, it cuts off or covers up just one-half of the slit — say the upper half. The plate is uncovered in the camera, the light turned on for the proper length of time and the spectrum impresses itself. The light is then shut off and the cap turned around one-half of a revolution, so that the upper half of the slit is now open while the lower half is covered. The screen or tank of dye is placed upon the platform *P* in front of the spectroscope, and the light again allowed to pass, the new spectrum impressing itself in turn immediately below the first one, with all the lines exactly coinciding and showing at a glance the sensitiveness of the plate to white light and the range of sensitiveness when screened with the particular dye that was used (Fig. 5). I have had photographs of spectra shown me by several embryo specialists which had been made by artificial light (without any lines or scale) and save only for the statement of the exhibitor — which might or might not be true — it was impossible to fix what portion it was that had been photographed. It might have been the green, or the yellow, but then again it might have been the blue — there was no means of proving the statement. With this method of two spectra on each plate there is no possibility of mistake, for in the first place the position is fixed by the presence of the lines; in the second place it is oriented against the unscreened spectrum of the plate.

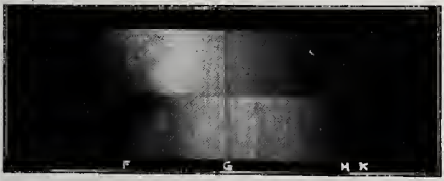


FIG. 5.

Negative by R. Bishop, Jersey City, N. J.

GLADIOLI.

MY EXPERIMENTS.

NO. V.

A nice clean sheet of paper is very enticing. It is like Tommy Traddles who, as lovers of "David Copperfield" will remember, was so lovely and plump that the school teacher used to wallop him frequently to hear the pleasant swat that the shingle made when it landed on him. The clean sheet of paper leads one on to write even when he has nothing valuable to say.

I have just run across a few sheets of nice clean paper. This fact and what I have just said will have to excuse whatever follows.

The day that I promised to write my experiments for Mr. Todd, or at least on that day, I had a brightly framed vision of a long and deeply interesting series of articles that I could write for him without half trying. I felt as though I could sit down right then and there and roll him off a dozen or so at a single sitting, each one of them radically different from the other, and that I could do it without encroaching on my fund of incidents. This is only the fifth article and I find that I am beginning to be pushed for topics.

If you or any of you were here so that I could ask you what you would like to hear about, I dare say that I could give you what you want, but in your absence I must do as best I can.

Captain Abney and Lionel Clarke got together once — at least once — and wrote a book. It is a good book. It is about the "Platinotype and How To Make It." It sells for about a dollar. It is worth whatever it can be bought for whether it be one or several dollars, or fractions thereof, be the same more or less. It tells who discovered photography; who discovered who it was that discovered photography; who it was who discovered that what the discoverer of photography had discovered was photography, and why he had done so. It also points out that if a Mr. C. J. Burnett, who flourished in Edinburgh, Scotland, some forty years ago, had not been so busy doing other things, he could easily have invented the platinotype and thus have beaten Mr. Willis, hands down. It is both instructive and interesting to know this, but it is not exactly the reason why I recommend the book to photographers.

The book is carefully written and the stuff has been worked up judiciously. It has literary, chemical and technical merits of a high order, and it is well worth reading.

Among other interesting facts, this little book relates one of the experiments of the Duc de Luynes. It seems that this noble gentleman was much interested by some photographic printing experiments that a M. Poitevin was carrying on, and went him one better. Poitevin was mixing chloride of iron with nitrate of uranium in water and exposing paper, coated with the mixture, to sunlight. When the exposure was made through a negative the result was a bleaching of such parts as the light had acted on, and when this was treated with a solution of either gallic or pyrogallic acid, the bleached parts remained unchanged but the unbleached part was well darkened. This gave him a negative from a negative and, conversely, a positive from a positive. The noble Duc opined that if the print were treated with a salt of gold instead of the pyro he could get a positive from the negative, and he forthwith set about making a trial of it. The Duc was correct; he got his positive, but it was not a very good one, so he tried it some more, and the next trip he mixed platinic chloride with his iron before preparing the paper and then, when he treated his print by passing it through the gold bath, he got a pretty fair prototype of the modern platinotype.

As platinic chloride is cheap — you can now get it for about $11 an ounce — it might pay you to get a pound or two of it and try the experiment for yourselves.

When Sir John Herschell was not engaged in discovering and christening comets and other eccentricities of the upper dome, he gave some of his attention to matters photographic. He is really the discoverer of the kallitype process, although he did not call it by that name, but instead, called it chrysotype. His game was to coat paper with citrate of iron and ammonia, expose it under a negative, and develop the result by floating it on either a solution of nitrate of silver — a variation of the kallitype process — or on a solution of chloride of gold, either of which gave fairly good results. As far as one can learn from the book, Sir John let it go at that and did not try the effect of mixing his chloride of gold with the iron, which is much simpler, for all that is necessary after that is to wash the print in water, which develops at the same time that it washes it.

I have tried every process given in Captain Abney's book — they all work strictly according to schedule — and have tried variations of my own on many of them. One of the latter was Sir John's chrysotype — mixing the gold and iron, however — and some of the results were good. As some of you might like to try it for yourselves, I will give you the formula with which I had the best results.

No ordinary fixing bath will thoroughly remove gold from the paper once it has soaked in and dried, but it can be treated in such a way that its presence will not cause much trouble, and that is to wash the print first in three or four changes of clear water; then in a 60 to 1 water and hydrochloric acid solution for a short while, after which it is to be rinsed again in clear water and treated for two or three minutes in a diluted hydroquinone dry-plate developer which reduces any free chloride of gold that may remain in the paper and prevents it from afterward giving the whole print, high lights and all, an unpleasant pinkish tint. A short washing in clear water after the hydroquinone will give you a finished print.

Formula for modified chrysotype solution:

Water	2 ounces
Citrate of iron and ammonia	90 grains
Pure chloride of gold	15 grains

Dissolve the gold in one ounce of the water and the iron in the other and mix the two solutions in equal parts for use, for if they are all mixed together it will be but a short while until the iron pushes the gold out of solution.

Negative by James E. Taggart, Delaware, Ohio.

THIRD PRIZE.

Apply the mixed solution to plain paper or drawing paper with a tuft of cotton or a clean sponge, dry it and then print for about as much of a visible image as you get with platinotype paper. Wetting it with cold water constitutes all of the necessary development, and for the balance, treat as above suggested and you will have pretty fair prints.

Prints of this type may be toned in the ordinary platinum toning bath that you are using for the double gold and platinum toning of collodion matt prints, and a good blue-black tone is readily obtainable.

Paper should be prepared only as it is wanted for use, for it spoils quickly, the iron reducing the gold in a few days even when it is kept away from the light.

RALPH MARTIN.

I THINK your magazine is excellent in every way, and should be in the hands of all camerists. Was recently comparing it with a $3-a-year magazine, and think THE PHOTO-BEACON is far ahead of the other. JAS. H. HART.

BEGINNERS' TROUBLES.

CHAPTER XII.

ART RATHER THAN SCIENCE.

Red spots in Aristo-Platino paper seem to trouble some of THE PHOTO-BEACON readers despite a faithful regard for the precautionary methods suggested by Mr. Hoyt in his able articles on the subject. One reader writes, "I believe the paper spots from the perverseness of its own disposition." I used to think so too; but when I took to wearing gloves whenever I printed with that paper the trouble disappeared and I concluded that it was the fault of my oily fingers. Some printers can take hold of the face of a print and have no trouble with the spots; but if I touch the back of the paper with bare fingers the spots are almost sure to appear. I have tried in a good many different ways to remove the spots, but have never found a method that was entirely satisfactory. In the toning bath a weak solution of gold will partly remove them if it is applied carefully to the spot and not permitted to flow beyond it. In the fixing bath a saturated solution of hypo may be used in a similar manner, and the result will be about the same. After the prints are dry the spots may be partly removed by erasing them with a rubber pencil eraser. A tuft of cotton moistened with wood alcohol will entirely remove them; but you will want to look out for that stuff if you try it, or it will eat up the emulsion and leave you nothing but white paper. As a general thing a print that has red spots on it should be called a spoiled print and thrown into the waste basket without further attention.

One reader asks if it is not possible to photograph a tree in two or more sections and print them in one, similar to the printing of a panoramic view. It is possible all right, and if it were not for the necessity of using the swing-back it would be as simple as the making of an ordinary panoramic picture. I have tried it but once — the only time that I found it necessary to get the picture that I wanted.

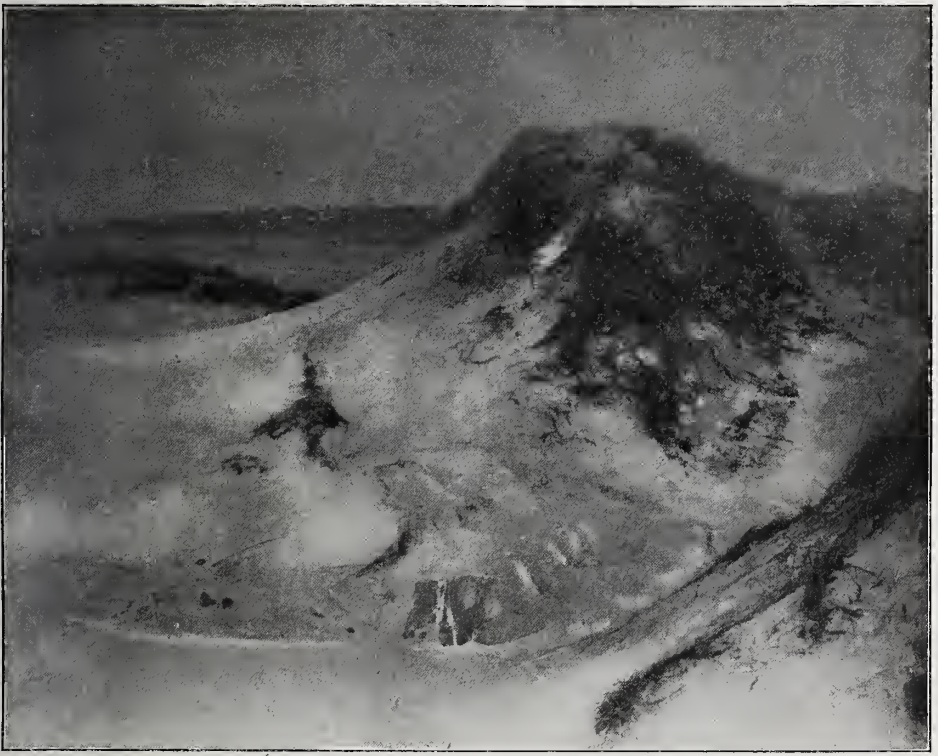
It happened in this way: I was out in the mountains with my camera and tripod when I saw a tall fir tree growing on the edge of a cliff. It was decidedly out of plumb — leaning outward as if to peep into the chasm that was soon to be its grave — for each year the flood was eating away a little more of the earth and rocks to which its roots valiantly clung. I wanted that tree. When I want a thing I want it bad; but there was no place around that tree that would give me a view of it without taking it in two sections. As it was I had to put my tripod in a precarious position on the very edge of the cliff. I took the lower section of the tree in the usual manner. Then I made a plumb-bob with a string and a stone and attached it to the lens so that it hung about an inch above the ground. I marked the point over which it hung and readjusted the tripod so as to take the upper section of the tree. The plumb-bob enabled me to get the lens in the same place that it had been when I made the first exposure, and the rest was easy. I had to give the swing-back a decided tilt when I made the last exposure and the negatives did not match so closely that an expert would be deceived; but they came near enough to make a picture of it.

In closing this series of articles I want to thank those who have written for the help they have given me in their preparation by telling me what their photographic troubles were. I hope the articles have been a help to them. I feel a kindly interest in all readers of THE PHOTO-BEACON, and a double one in the beginners, for it has been to them that all of my articles have been directed. These articles have necessarily been of a practical kind, but as I still have a little space available I will use it in giving you a little theoretical talk.

Strictly speaking, photography is a science. Yet the greater part of the scientific work of photography is done in large laboratories in the preparation of plates, paper and chemicals for the photographers' use. When they reach his hands they are generally accompanied with such plain directions for their use that one need but to follow them to be successful with the necessary scientific work. A beginner who takes advantage of every available help will have very little left to guess at or learn by experiment. His elementary instruction book will tell him how to load his plateholders. By consulting his exposure tables he will know how long to expose a plate on any subject. The developing tables recently published in THE PHOTO-BEACON by Mr. Watkins remove every element of chance in that part of the science, and with self-toning and water developing paper there is little left to learn.

Photography as practiced nowadays is either an art or a nuisance. Photographers who do not recognize and practice it as an art should be suppressed as public nuisances. Every man is not born an artist, but those who have *no* artistic ability ought to let photography alone. Of this latter class there are probably few representatives in this world of ours; for a love for the beautiful is an inborn human trait, and one who does not have it is something less than human. The most degraded of savages show this trait in one way or another, though their ideas of beauty are often very crude. They are probably no more crude, however, than the ideas of many photographers as to what constitutes a picture. The way to civilize the savage is to educate him in better ways. It is a poor rule that does not work all around; so let us all endeavor to educate the photographic savages around us; not necessarily by telling them that their work is N. G., for that is not always safe; but by making our own work better than theirs. Let us study the principles of art and endeavor to make all our photographs conform to those principles. In this way alone will we get any real and lasting pleasure from the art of photography.

J. EDGAR ROSS.



Negative by H. B. Parker, La Grange, Ill.

SAND DUNES.

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

CHAPTER XIV.

AMATEUR THEATRICALS.

Private theatricals are interesting as a departure from robust professional dramatic work, there being a freshness and originality cropping out at unexpected times and places to challenge and amuse an audience.

Doubtless all people of both sexes have secret desire to "tread the boards" and astonish friends with latent and unsuspected talent which has lurked in their breast and been smothered for opportunity to come forth and shine. The world knows not what may have been lost in unrevealed genius or what it has escaped by its suppression.

The enjoyment found in some plays by amateurs quite overbalances the pleasure found in serious bona fide performances. We thought the present opportunity was one not to be missed, and drove over to the village in the afternoon and put up at the tavern in whose ballroom the play was to be given. We were well received by the landlord, given a good supper and secured a room for the night, as after the play it would be too late to return.

The leading man, or the hero of the tragedy of the evening, was pointed out to us as the brightest scholar in the school and particularly strong in declamation.

Not exactly with ostentation, but with a tread of consciousness, he walked up and down the office of the hotel as though studying his part or anticipating a triumph. He was not in the least embarrassed that people were regarding him with attention — he was to be the hero of the play and was not ashamed to be known as such.

As evening came on an activity was commencing — people were coming in, passing through the hallway and upstairs. The landlord came to us with a suggestion that if we wished to secure good seats perhaps we had better go up. Of course, we wanted good seats, and we went up, none too soon, for the room was being rapidly filled. There was a good bit of interest in noting the audience, the expectant and impatient manner of it.

The room was lighted by lamps hung upon the walls with tin reflectors behind to throw added strength of light, which was not, however, a great success. There were no footlights, no chandeliers for a more brilliant lighting. No orchestral overture to help kill time before curtain rising — no "cat calls" from the boys — no impatient stamping of feet — just a patient wait.

The drop curtain was of plain white cloth, and thin, so the actors and actresses showed plainly through. The stage being lighted more than the auditorium proper, the company was more in sight than the audience, and without knowing it at all. The stage was greenroom without being aware of it. The posings and primpings of the players was a free show, and I fancied a better one through the curtain than we would see when it was raised.

A little girl sitting beside me who had a vial of peppermint essence to which she was touching her tongue occasionally, I found accessible to conversation, which was carried on between us in a low tone. She gave me good information as to who the actors were that would appear. She pointed out her sister who was upon the stage and would take a part. I was satisfied she was one of the eleven whose teeth had come through upon the dollar, and here was my little friend of the essence, whose gums had yielded to the silver disk. I was in luck to make such valuable finds.

At last the stage was cleared, the curtain raised, and a young lady came blushing upon the stage, and in a sweet voice pitched to a pleasant tune told us in song, "I love the merry, merry sunshine, it makes the heart so gay." She looked so innocently sweet I did not blame the sun for shining upon her. The song completed she withdrew, loudly applauded.

The next number was a piece "spoken" by a young man. We did not quite make head or tail to it; the gist of it was, however, the revelation of some crookedness on the part of another young fellow and the declaration of the relator that the other fellow of crooked tendency "Had better let the Gold Watch be."

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*Copyright, 1901, by James F. Ryder.

The reader will kindly pardon the obscure surroundings of this legend. It is given as clearly as we received it.

main attraction of the evening and was to come on here.

I am again under embarrassment at my inability to give the name of the tragedy or even the names of the characters, as no program was on distribution nor announcement made. The curtain rose on three characters — two males and a female. The males seemed to be made up for villains with heavy eyebrows and false beards. They wore short shoulder cloaks which permitted the right arm entire freedom in case some sword business should be necessary, hats slouched, high boots with

EAST BRANCH FALLS, ELYRIA, OHIO.

Thinking the elocutionist needed encouragement, Mr. Park and myself applauded right heartily and were rewarded by a nice bow from the performer.

These two numbers were merely a prelude to the tragedy which was the trousers tucked inside. By their sides hung sabers with basket handles and square, blunt ends, such as are used by pirates on decks of ships when attacked by men-of-war.

The female was dressed in white with a blue ribbon around her waist. She was seated at a table with needlework in her hands, a few stitches were taken, but she was too agitated to continue. The males strode across the stage from side to side, with an "unhand-me-villain" air, glaring at each other as they met, their sabers clanking with an ugly sound. The one with the heaviest eyebrows opened the conversation by saying: " Villain, you have wronged me." This led to hard words from the other and was the beginning of a dispute in which very mean things were said on both sides.

It was evident the difference was about the young lady and each seemed bent upon carrying his point. The young lady seemed much distressed to be the cause of the quarrel. Finally the most persistent of these seemingly bad men turned abruptly to the young lady and said, " Prythee, fair Genevieve, choose between us."

It was easy to see the appeal was most trying as she arose from her chair, put her work carefully upon the table, clasped her hands and said convulsively, "Oh, Dehaldimer, I can not, I can not."

Then Dehaldimer, evidently broken up at her reply, hissed between his teeth, " Zounds, fellow! Draw, and protect thy caitiff life! " and now commenced a fierce combat. Heavy blows were aimed at each other; lunges sharp and hard were driven. He who seemed the weaker, was forced upon his knee, and the other, seeing his advantage, hammered hard blows upon the upturned saber as he walked around the disabled antagonist. The plucky fellow upon his knee weakened not at all, but kept up the fight to the admiration of the audience. By a quick turn of the wrist the man upon his knee flipped the saber out of the other's grasp and it went flying across the stage; then, dagger in hand, rushed for him.

To give realism of effect the man who had to be killed wore a bladder filled with something like blood, under his shirt, and as the dagger came close, considerately held the shirt open to facilitate the stabbing. The imitation blood gushed out, covering himself and a portion of the stage. He partly fell, and partly laid himself down to die, while the conquerer knelt beside him, raising his right hand and his eyes heavenward, while his left was pressed against his breast. Meanwhile, Genevieve let down her front hair, a generous strand on each side, as deliberately as though undressing for bed. She wound a strand around each hand and began to pull real hard, and let loose a series of wild screams as she knelt by the other side of the slain actor. The curtain went down slowly and solemnly, the audience filed out deeply impressed — a man had been slain before their very eyes.

During the night, from the bed occupied by Park I heard what seemed a suppressed agitation. I feared he was ill, possibly coming under the paroxysm of a fit. I hurriedly went to him and asked what was the matter. By the pale moonlight coming through the window I saw him rise to a sitting posture, clasp his hands and exclaim, " Oh, Dehaldimer! I can not, I can not."

More than half a century has passed. It has been my fortune to witness many of the world's greatest artists and their wonderful representations, but with them all in plain view, that evening with the amateurs holds firm grasp upon my memory, sunk deeper in my brain, is recalled with greater pleasure than any performance I can recall.

Mr. F. Dundas Todd, Chicago:

DEAR MR. TODD,— It is said that " all creations of man are at fault," and the fault with THE PHOTO-BEACON is (I believe) that it does not come weekly instead of monthly. I suppose Mr. Hollinger would say that " that's all right," but it is my nature to want more than I can get of a good thing, and I must tell some one.

Wishing you a successful New Year,
I remain sincerely, O. J. SMITH.

THE DEVELOPER AND ITS CONSTITUENTS.*

BY A. K. BOURSAULT.

INTRODUCTION.

The purpose of these articles is to eradicate from the minds of a great number of amateurs and professionals much imperfect knowledge and often erroneous ideas concerning developers, their composition and the properties of the chemicals used in compounding them.

The subject is neither abstruse nor tedious to the average mind. A few general principles, carefully mastered, will remove all difficulties. The developing tray, the developer, the photographic chemicals are the tools of the photographer as much as his camera or his printing apparatus. Therefore he must be familiar with them and must master the technic of his art before he can claim to be a photographer.

The writer is fully aware that he follows a well-trodden path, and therefore makes no claims to originality. But to the sincere students of art photography, and to the conscientious professionals, who possibly are unable to refer to more complete publications, the following notes may prove interesting and useful. And if they be, the aim of the writer will have been attained.

CHAPTER I.

ON SODIUM SULPHITE.

When a sensitive plate exposed in the camera is taken out of the slide no sign of an image is observable on its surface. A developer is required, as all know, to call forth the latent image. This developer is compounded from several substances which differ both in nature and quantity according to the developer made up. A certain number of them, however, are common to all developers in ordinary use. We can consider the typical developer as made up of:

Negative by Lewis R. Clarke, Lynn, Mass.

TWILIGHT.

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*Copyright, 1902, by F. Dundas Todd.

First, a vehicle and dissolving agent — water.

Second, a preservative — sodium sulphite or potassium metabisulphite, or both.

Third, a developing agent — pyro, metol, hydroquinone, eikonogen, etc.

Fourth, an alkali — such as sodium or potassium carbonate, sodium or potassium hydrate, etc.

All of these chemicals have their particular functions to accomplish during the process of development, but to do it well and under the most favorable conditions they need to be of the best quality obtainable and as near the C. P. (chemically pure) mark as possible. It is well to emphasize here the fact that the more expensive but purer chemicals are the least costly ones in the end, and that it will repay the photographer many times the extra money invested to buy only first-class chemicals for all photographic purposes.

Of all the chemicals under consideration, sodium sulphite is the most liable to give trouble. In certain parts of the country it is difficult to procure it in anything like the required state of purity; and, indeed, anywhere to get it of uniform strength and quality except when purchased direct from some of the best manufacturers or large photo-supply houses. As the preservation of the developing solutions and the uniformity of results in development depends mainly on the quality of the sodium sulphite used, the greatest care ought to be bestowed in securing the very best kind of this salt. Its instability is one of its greatest defects. In contact with the air it absorbs oxygen and is slowly converted into sulphate of sodium (commonly called glauber salt). This not only weakens the preservative action of the salt, but strongly retards development. Pure sodium sulphite is sold in two forms — in crystals and in dry powder, the dry powder being exactly twice the strength of the crystals. Both can be bought labeled C. P. Whenever in doubt as to the reliability of the brand in use, it is preferable to purchase the crystals, the presence of sodium sulphate being more easily detected on the crystals than in the dry powder form. However, when the salt can be obtained from a reliable manufacturer, the powder form is the best, as it keeps better under unfavorable circumstances and will not oxidize so easily in contact with the air. Never buy sodium sulphite for photographic purposes in cardboard packages, but in glass bottles, no matter what your dealer may say to the contrary.

In photographic studios where large quantities of sodium sulphite are bought by the keg for immediate use, all shipments should be tested for the detection of sodium sulphate as follows: Dissolve 30 grains of the sulphite in an ounce of water and thoroughly mix with it about one dram of hydrochloric acid (C. P.). Then add slowly a strong solution of barium chloride until the maximum turbidity is produced. The turbidity is due to the presence of sulphate of sodium, therefore, the less of it the better. There is nearly always a very slight turbidity present. Besides, the acid added liberates sulphurous anhydride, which has the characteristic odor of burning sulphur and the best sample tested will give the strongest odor. (Chapman Jones.) Always choose your sulphite crystals clear and transparent, and whenever covered with a white powder (sodium sulphate) reject it, or if you have no other at hand, wash the lumps well so as to free them from the sulphate. Use them only when clear looking and transparent.

All sulphite used for photographic purposes, whether in powder or in crystals, ought to be neutral, that is, there ought to be neither free alkali nor carbonate of soda present. This is unfortunately not the case. The writer has never yet seen a commercial sample that was, chemically speaking, neutral. Sometimes, indeed, the reaction may be acid on account of the presence of bisulphite of soda. Most generally, however, it is alkaline. This fact is so well recognized by the plate manufacturers that they all add an acid to their formulæ to neutralize the free alkali present or dispense with the sulphite altogether as a preservative.

Certain commercial sulphites are practically useless on account of their impurity. Every sample ought to be tested for carbonate of soda and free alkali and neutralized before use. It is, however, impossible to use litmus paper or cochineal for this purpose, as we see it too often stated wrongly in the photographic press, on account of secondary reactions. A very simple and reliable method of testing samples is here given which will enable the worker to determine quickly and with enough accuracy for all photographic purposes the amount of free alkali present and also the amount of sulphuric acid (C. P.) required to neutralize any given quantity of sulphite of the same brand as the sample tested.

In 15 parts pure alcohol dissolve one part of phenol-phtaleine. The smallest drop of this solution will color to a bright bluish red any solution of sodium sulphite which contains free alkali or carbonate. Now make up two solutions:

Negative by Dr. M. Houston, Joliet, Ill.

THE EDGE OF THE NIGHT.

Solution A.— Dissolve 50 grains of sodium sulphite in 1,000 grains distilled

Negative by Miss E. Dabbs, Springfield, Mo.

ABOVE YOSEMITE FALLS.

water. (Note 100 grains equals 110 minims.) When dissolved, color the solution with a trace of the phenolphtaleine solution taken with a glass rod.

Solution B.— Mix 10 minims sulphuric acid (C. P.) with 1,000 minims of distilled water.

Take further a known volume, say one ounce of Solution A (which you will notice is a 5 per cent solution of sodium sulphite, that is, holding 5 grains sulphite in solution for every 100 grains of water) and pour slowly into it, drop by drop, Solution B, stirring with a glass rod all the while until the red coloration entirely disappears, the change being sometimes rather sudden. The solution is now neutral. The term drop as a measure of quantity is a very indefinite one, as its size is variable, depending partly on the nature of the solution but more particularly on the shape and size of the opening through which it is poured. Therefore, the tests should be made with a pipette, which can be secured at a very small sum from a chemical supply house, or if the solution be dropped from a small bottle or graduate, the value of the drops can be learned by observing how many there are in a certain volume, say 60 minims.

Knowing then the amount of Solution B required to neutralize one ounce of Solution A, it is a matter of simple calculation to determine how many minims of sulphuric acid (C. P.) will be required to neutralize one pound of sulphite of soda of any given brand. This test furnishes, besides, very approximately the quantity of carbonate contained in the sulphite by simply multiplying by 3 the quantity of sulphuric acid (C. P.) required for the neutralization. (F. Dillaye.)

A few samples of some well-known brands having been recently tested by the writer, the results are given here, showing the average amount of sulphuric acid necessary to neutralize 1,000 grams of each sample.

Name of Brand.	Amount of Sulphuric Acid (C. P.) needed to neutralize 1,000 grams.
ANHYDROUS.	
Seed's C. P. dry	10.6 c. c.
Mallinckrodt M. C. W.	12.5 "
Merck's dry	13.5 "
Richards imported	14.5 "
Baeker and Adamson	15.0 "
Gennert's	27.0 "
Ordinary commerc'l samples	30-40.0 & more.
CRYSTALS.	
Merck's C. P.	4.5 c. c.
Mallinckrodt	5.0 "
Baeker and Adamson	5.7 "
Gennert's	16.0 "
Ordinary commerc'l samples	15-20.0 & more.

There are many other impurities that may be found in sodium sulphite, but being of no consequence to the photographer they need not be mentioned here. Moreover, many of them are easily eliminated, in part or entirely, by filtering the solution before use.

Having thus determined the quality of the sulphite of soda and secured a good brand, we shall proceed, before inquiring further into its use as a component part of the developer, to investigate in the same way the quality and requirements of the other chemicals with which it is associated in development.

A NOVEL ENLARGING DEVICE.

The article in your December number with regard to building an enlarging apparatus, although personally it did me no good, set me to thinking. You see I am so fortunate as to have to work for my living, and have to enjoy my photographic fun in the evenings after the "Saturday afternoon off" stops. I tackled every "photograph fiend" of my acquaintance for information as to how to go to work to build something which could be used to make enlargements by artificial light, but one and all seemed to be in just my fix — they had a faint recollection of seeing a description a long time ago in some paper, book or magazine, but did not remember just where. I tried several photo supply houses but they could give me very little more information — or would not — with the exception of one who said that almost any light-tight box would do, but that I would never be able to get a picture much if any larger than the original negative showed, unless I bought condensing lenses and had electric light or a Welsbach gas lamp. As I am a resident of the suburbs, these luxuries are denied me, and I did not feel like "fooling away" $8 or $10 for condensing lenses, as my wife would call it.

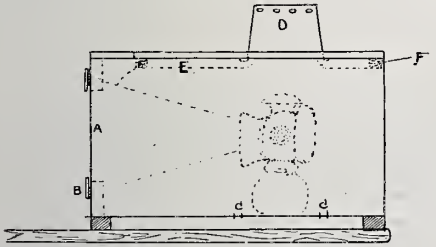


Fig. 1.

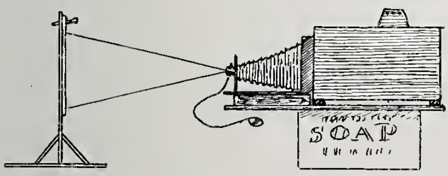


Fig. 2.

Well, to make a long story short, I monkeyed around with a saw, a chisel and a jack-knife in connection with a hammer, a can-opener, and the shears my wife trims the lamps with, and now have an enlarging apparatus with which I am as proud as a hen over her new-laid egg. The other evening I made a head which was an inch long on the negative slightly under five inches high and could probably have made it larger, but my darkroom would not let me get the board back any farther from the lens.

There seems to be so much of a desire to do enlarging with the regular camera on the part of those I have talked with, and so much ignorance as to how to go at it, that I have thought perhaps my experience might be interesting to some other "fiend" who has only his evenings at his disposal.

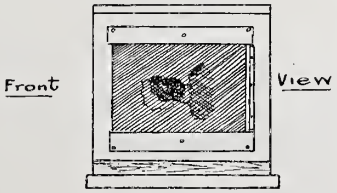


Fig. 3.

First I secured a box in which shot-gun shells had been packed, and which appeared to be a good size. Then filled my bike lamp up with carbide, and set it inside, so that the light was thrown up against one end of the box, and marked with a pencil where the center of the light came, then marked with a pencil around the lamp as it sat on the bottom of the box. I then cut out a hole in the end of the box (marked A) 6½ by 4½ inches in size, so that there would be ¼ inch margin all around on a 5 by 7 plate. I next took a couple of slats off the top of a grape basket, and cut them about an inch wide and 7 inches long, and then cut out two pieces from the side of a cigar box the same length but ¼ inch wider. One of these was nailed on the outside end of the box, with the top of the cigar-box-wood piece even with the opening. (See B.) I then slid in a 5 by 7 plate and nailed the other two pieces on top, leaving a channel for the plate to slide in. The top of the box was ragged at the ends where the nails had pulled through, so I sawed it off a little at each end, and put strips of wood (F) around the inside of the cover, so they would just go inside the edge of the box, and prevent the cover from sliding around, while keeping out the light. I then found where the top of the lamp would come, and with some little trouble cut a round hole, large enough to force a 3-pound lard pail about three-fourths the way through. Slots were cut in the rim of the pail and the strips turned back, leaving the pail sticking out at *D*. I next cut an old ferrotype plate to the right size, made a hole in it where it would come underneath *D*, and tacked it onto the cleats, as shown by the dotted line *E*. I made a row of half-inch holes around the bottom of the lamp to let in air, and a cleat under each end of the bottom of the box so that these holes might not be closed up. A board was nailed on the bottom, letting it stick out far enough in front so that the camera would sit firmly on it, and the job was done.

It did not work as well as it might till I used a sheet of ground glass between the negative and the lamp to diffuse the light, but since then it has "surpassed my wildest expectations" as they say in novels.

To hold the paper I broke up an old easel, and mounted it on a piece of board at the bottom, and nailed to it an old molding board, which I begged from my wife.

Negative by W. L. Whitson, Chicago.

MARSHLAND.

The box should be painted black inside — or at least I painted this one. Any light which gets out between the camera and the box can be shut out by wrapping the focusing cloth around the box at that point. There was some little trouble in knowing just where to put the paper until I happened to think of using a ray filter which I have. With this over the open lens, the paper is safe, and you can focus just as well as though it was not on, and in this way you can tell just where your picture is going to come and all about it.

I used a Solar bicycle lamp, Premo camera, and worked the lens at the largest opening. The negatives were rather thin, and it required from three to five minutes' exposure on Eastman's bromide.

I hope this will help out some poor impoverished groper like myself, and enable him to have a new kind of fun out of photography at a little expense.

W. A. Merriam.

A FEW HINTS ON THE USE OF SLOW BROMIDE PAPERS.

"An ounce of practice is worth a ton of precept," so possibly a description of "have dones" may be more helpful than a preachment on "should dos."

In using the slow bromide papers — Velox, Cyko, Dekko, etc.— a great deal, I have found the following method of procedure to give the most uniform results:

I cut up one sheet of my package of paper into pieces one-half inch square for test purposes, and experience has taught me that this is economical prodigality. On nearly every negative you will find a spot where the test-paper may be made to cover a portion each of high lights, half-tones and shadows; on such a spot I place a piece of the test-paper. Covering the printing-frame with a piece of zinc, I bring it out of the darkroom and placing it at a definite distance from a north window, and at a definite angle to that window, I make the exposure.

In making the exposure I use a metronome—set at 60, i. e., to beat seconds—which allows full attention to be given to uncovering and covering the negative.

The reason that I say specifically "definite distance" and "definite angle" is that those two factors determine the length of exposure. As we all know, though we are apt to forget, the amount of light that falls on a given surface depends upon two things: First, the distance of that surface from the light, and second, the angle at which the light strikes the surface. In the first case the amount of light varies inversely as the square of the distance between the printing-frame and the source of illumination. For example: If a negative requires one second ex-

Negative by Wm F. James, Chicago.

TUESDAY.

posure at a distance of one yard from the window, it will require four seconds exposure when two yards from the window, or nine seconds when three yards, and so on. In the second case the amount of light varies with the angle it makes in striking the surface, being greatest when the negative is perpendicular to the rays of light. These two factors evidently require us to be careful if we wish for uniform results.

Having made the exposure I take the frame into the darkroom and develop the test strip and note how nearly correct my exposure was. If very slightly under or over exposed I do not test again but put in a full-sized piece of paper and expose it a slightly longer or shorter time, as it needs. If, however, I have badly under or over exposed, I take another piece of test paper and try again.

In developing and handling the paper I use the darkroom, strongly illuminated with orange light, as I prefer a brilliant non-actinic to a dull actinic light. By this method gray whites due to fog are avoided. With regard to the developer used, I find the ready prepared developers sold by the manufacturers of the different brands of paper to be the most satisfactory, and taking into account the trouble of making up one's own and the difficulty of getting a uniform grade of chemicals, the cheapest. A pretty olive-green tint, suitable for "moonlight effects" and similar subjects, may be obtained by very prolonged exposure and development in developer with excess of bromide in it.

A. J. Cramp.

PHOTOGRAPHS OF HORSES.

An enthusiastic Boston amateur, Dr. Vondal, desires the assistance of all fellow "camera fiends" in illustrating a book he is engaged on as a memorial to the horse:

To all lovers of horses:

Your help is wanted in compiling (as a testimonial, ere autos and flying machines have superseded him) an illustrated book, "The Horse and His Friends." Send us newspaper and magazine clippings and anecdotes on: Intelligence and sagacity of the horse; his affection for other animals and for human beings; devotion of men to horses; lives saved by horses; the horse in history, literature, drama, art, war, peace; horses of famous men and celebrated horsemen; humane societies, and what they have done for the horse; veterinary colleges and hospitals; cemeteries for and monuments to horses; horse trades, jokes, etc.

Also photographs and pictures of famous, intelligent, handsome and freak horses, mules and donkeys — at work and at play; owners, breeders, trainers, jockeys; also clippings and pictures of substitutes for the horse in all lands; vehicles — ancient, queer, etc.

We want every friend and admirer of God's noblest quadruped to act with us as co-author. All information relating to the equine race thankfully received and edited with "horse sense" by J. L. Vondal, M.D.

P. O. Box 2340, Boston, Massachusetts.

ECONOMY FOR BEGINNERS.

You have all heard at some time or other some one say: "I think I will give up my camera, as it is costing me too much money." Now, I always feel sorry for any one I hear say that, because a camera does not cost any more or as much as shooting, biking or golf, or, in fact, any of the popular amusements. Any person that can afford to buy a camera can afford to keep it, if they will only use a little judgment. Do your own developing, printing and finishing. If you will not or do not, you had better give your camera away, for here lies the whole joy of being an amateur. Never buy any solution put up ready for use that you can put up for yourself. For instance, when I first began to take up photography, I bought Eastman's toning solution for their Solio paper, which cost me 50 cents per eight-ounce bottle. I now make six pints — ninety-six ounces — for about 70 cents; quite a saving, is it not? I also bought hypo in pound packages at 10 cents per pound; I now get in bulk 25 cents' worth — five pounds — at one time, which saves me 5 cents on the pound. Get a pair of hand scales, which cost about 50 cents, also a minim glass used to measure small quantities of liquid from one minim (one grain) up to sixty minims (one dram). Now you are fixed so you can put up any solution that you want.

Suppose you want twenty grains bichloride of mercury to make up into a solution. Get one ounce instead, because the photo dealer will charge you as much for twenty grains as he will for an ounce. This is an actual fact, as I know from experience. In buying carbonate or sulphite of soda, get that which is put up in one-pound cartons, and which has never been opened. The cost here in my town is 20 cents per one-pound carton. The photo dealer will probably offer you the sodas put up in one-pound bottles, for which he will tax you 40 or 50 cents per bottle. Instead, take your sodas in your 20-cent cardboard boxes home and empty into clean pickle jars; so you see you save enough money in that item alone to buy two dozen sheets 4 by 5 Velox paper.

Negative by E. M. Blaine, Chicago.

SOLITUDE.

Also, instead of ruining plates by the dozen from overexposure or underexposure, get a copy of the " Photo-Beacon Exposure Tables," so that you will be sure that when you expose a plate you can bet that the exposure is about right. I have always used the little book, which is just as good as the best and most expensive exposure meter on the market, and costs but 25 cents. It has been my experience that a great deal of money can be saved in a year by a little judicious figuring in buying photo supplies.

P. S.—I hope Mr. Todd will not think I am trying to jolly him about his exposure tables. I have used them ever since I got my camera, at a time when I did not know whether to give a minute or six weeks to a time exposure, and I must say that any person that can not get six good negatives from a dozen plates by the use of the tables needs a guardian.

H. E. PUMPHREY.

EDITORIAL TABLE.

The Coloplatin Company, Newton, New Jersey, has just issued a pamphlet giving particulars of the printing papers manufactured by the firm.

The folding Pocket Kodak De Luxe is the title of a pamphlet regarding a camera of the same name, manufactured by the Eastman Kodak Company. The illustrations are simply beautiful, but the kodak is more so.

Those interested in salon pictures will secure a treat by investing 25 cents in a copy of *Camera Craft* for January, in which are reproduced fifty pictures that were exhibited in the San Francisco salon. The address of the magazine is No. 220 Sutter street, San Francisco, California.

The International Annual of *Anthony's Photographic Bulletin* is the first annual of the year to reach our desk, just as we are going to press. It is very much on the lines that have proved so successful in past years, being full of good, solid articles, and garnished with excellent pictures.

At the Detroit Convention Mr. Milton B. Punnet, Sc.B., chemist of the Standard Dry Plate Company, Lewiston, Maine, read a very interesting paper on "Practical Chemistry for Photographers." The firm has now issued this paper in book form and copies can be secured for the asking. A postal will bring it.

From Scovill & Adams Company, New York, we have received a copy of the *American Annual of Photography for 1902,* which is on practically similar lines as that of former years. There are many practical articles in it telling how to do things, many on points of theory and, not the least interesting, many on "nature" subjects, showing very good photographs of birds and other animals. The illustrations are more varied in their character than in previous years, since all schools of photographic art are well represented.

Penrose's Annual for 1902 is upon our desk, and after looking through it we find that it holds, as usual, the first place in the matter of pictorial illustrations. As an example of typographical art it certainly holds the palm over everything published on this side of the Atlantic. It causes a careful observer surprise to note the excellence of the half-tone work on zinc, which we in this country could by no means approach. The Annual contains its usual quota of serious thoughts for serious workers. The many contributions on the theory of half-tone work still continue to occupy a considerable portion of the book, while the scientific aspect of photography relative to orthochromatism and trichromatism work is well represented by articles from the able pens of Tallent, Sanger Shepard, Zander and many other well-known experts in this branch. The three-color illustrations which are a conspicuous feature of the book do not, upon the whole, show as fine results as does that executed in the United States, and in spite of the much vaunted superiority of the European worker in this branch, we feel that this country has nothing to be afraid of in European competition, one illustration in this line from Harper Brothers being far ahead of anything else shown in the book. The black-and-white photos from commercial still life objects are particularly good, and when we consider they are photographed direct from objects, we feel that we in this country have still got a few wrinkles to learn in this department. The agents for the book in the United States are Tennant & Ward, 287 Fourth avenue, New York, price being probably $2, and the book is well worth it.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL, Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

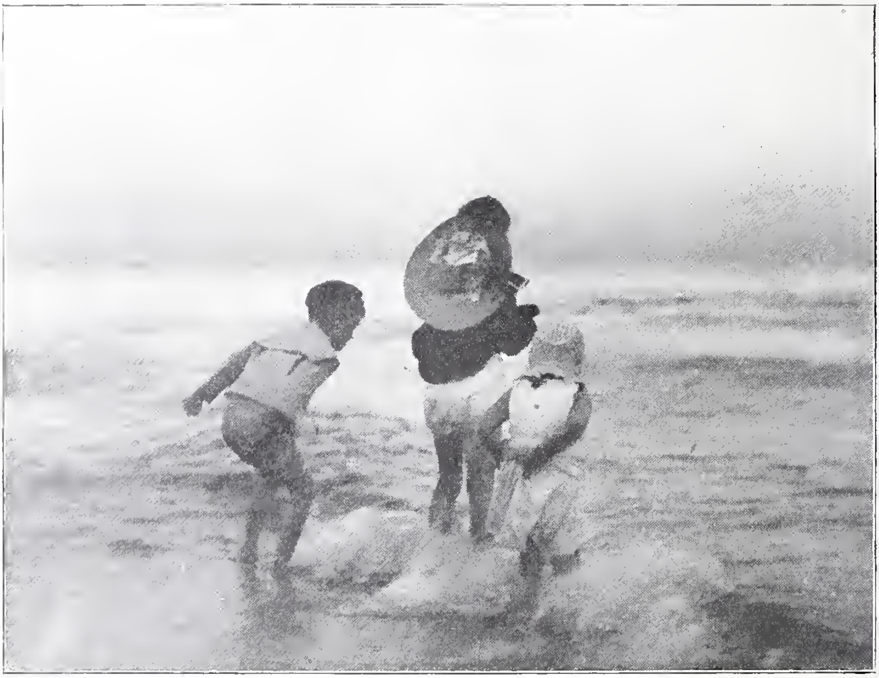
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Negative by F. R. Lockhart, Toronto, Canada.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. MARCH, 1902. No. 3.

ON PAYING THE PRICE.

In the January issue I took occasion to make a few comments on some ideas that developed out of my experience in connection with the Rotograph competition, and tried to point out a big moral as the result. I there tried to show the necessity for charity being exercised by those who held to old accepted notions, to those who advanced new ideas that were in conflict with the former, and stated that not infrequently the difference between groups of individuals is more a matter of misunderstanding through inadequate human speech than to actual disagreement of thought. My remarks especially referred to the present divergence of views between the new and the old schools of pictorial photography, the leaders of the former being, as everybody knows, very largely associated with the New York Camera Club.

Whenever something new comes to me I gladly welcome it, because the greatest pleasure I have in life is the receiving of a new impression at least every day, and while I may not agree with it, I enjoy the satisfaction of masticating it as a luscious morsel and digesting it at my leisure. To the average man the pain of a new idea is the greatest pain in the world, but to me a new idea brings the greatest satisfaction. Therefore, since writing the January article, I have again and again turned my thoughts to the subject and considered the matter from both points of view, namely, that of the radical and that of the conservative element, and while I have nothing to say that will in any manner modify the advice I gave to the exponents of the accepted ideas, I feel I have a message for the agitators of the latest notions in pictorial work. The volume of criticism, nay, abuse that has been leveled at their heads, must naturally make them feel that they have not been fairly treated, but I wish to show them that nothing else was to be expected in this world, peopled by frail humanity.

Winwood Reade, in his "Martyrdom of Man," shows to my mind conclusively that all our social and intellectual advance is based on this: "Pain is the cause of human progress." There is in mankind a tremendous amount of inertia, as there is in all nature; that is, every object tends to remain in its present condition until it is forced to depart from it by the application of some force outside of itself. We, being part of nature, are therefore governed by this law, and so we tend to remain in our present condition until forced to change by some impulse acting upon us physically or mentally. A new idea being a disturbance of our mental equilibrium, our first and most natural impulse is to resent it, and it is only by repeated impacts of this idea upon our gray matter that we give way before its momentum and assume a new stable position. Action and reaction are the same, so when any new idea acts on us we react with equal force. The stronger we are hit the more forcibly we strike back. The consequence is that every reformer must pay the price before the world accepts his conclusions.

To some men a new idea has brought unstinted personal abuse, to others the tortures of the rack, to many death itself, and one and all seem to think that the price was not too great for the exceeding great reward that was theirs. They thought that they were right, that they had a message for the benefit of humanity, that sooner or later it would be adopted, and for the good of succeeding generations they were perfectly willing to be martyrs in their own. Nor did they differ but in degree from the rest of their fellows, for the physical and mental riches that we possess to-day were earned by the blood of our ancestors and all of us in turn must suffer in a lesser or greater degree for our posterity. We can not complain that we must do so, as even at the worst our pains will not compensate for those represented by the benefits we so lightly appreciate.

I have just said that while the reformer must be prepared to pay the price in order to see his ideas accepted by the world as being true, he is at the same time not without his present reward. In fact, I am convinced the latter is greater than the former. I speak not without experience and I hope my readers will not consider me egotistical if I go back on my life's history a few years and refer to a time that must be well remembered by many of them. In 1895, at the Detroit convention, on seeing the work of Mr. Hollinger, I was seized with a new idea — I did not seize it — on the problem of lighting the human face, and for the next two years I felt I had a message to deliver for the good of photographers, and so in season and out of it I kept pounding my new idea into the head of every one who would listen to me. Photographers, very naturally, resented it, and from Maine to California I was for a long time perhaps the most abused individual in the photographic business, and epithets were hurled at me both to my face and behind my back, to which those applied to my New York friends are as milk and water. They did not bother me in the very slightest. In fact, I rather welcomed them, because it showed me how hard I was hitting the various individuals, and the fiercer I was opposed the better I liked it. At length my very strongest opponents began to experiment with the system of lighting that I was trying to inculcate, with the very natural consequence that they became even more enthusiastic than I was, and now " Painter's Lighting " holds a very honored place among the members of the fraternity. Great as has been the pleasure of success, much as I appreciate the kindness I receive from photographers as a consequence of the lesson I taught them, much as I enjoy having thousands of men tell me to my face that I have done them more good than any other man ever did, I want to say most emphatically that none of these were equal to the great exhilaration I had in actual fight, and when I was opposed the most I was having the greatest pleasure in the world. The pleasure of pursuit is the reward of the vanquished. The winner of the prize gets little more.

The new school of pictorial photography, therefore, need not complain because of the opposition that is advanced on every hand, because that is in accordance with natural law. They must be prepared to fight for the acceptance of their ideas as all others have had to do before them, and to pay the price, but at the same time, win or lose, they must not forget that at every turn of the game they are having the exceeding great reward of the pleasure of pursuit.

F. DUNDAS TODD.

I OFTEN read that photographers dislike using pyro on account of its staining the fingers, so wish to tell you that all stain from pyro is easily removed by using a fresh-cut lemon. Rub the fingers well with the juice. I take the opportunity of telling you this because I think many would like to know it.

GEO. L. HERFORD.

PICTORIAL COMPETITION No. 45.

The child picture competition is usually one of the most interesting, because in many ways the most original of our monthly competitions, and the present one was no exception to the rule. A very large and varied number of prints were submitted and it was with no little difficulty the judges were able to make the awards as follows:

First prize — F. R. Lockhart, Toronto Camera Club, Toronto, Canada.

Second prize — James E. Taggart, Delaware, Ohio.

Third prize — F. B. Noyes, 1109 Stewart building, Chicago.

PARTICULARS OF WINNING PICTURES.

First prize — The only particular given is that the print was made on toned platinotype.

Second prize — Made on Stanley plates, printed in carbon.

Third prize — Taken in June on a Cramer Crown plate, exposure one second, printed on Willis & Clements platinotype and toned with mercury.

FUTURE COMPETITIONS.

Competition No. 47 — Snow pictures. Closes March 31.

Competition No. 48 — General competition, any subject. Closes April 30.

Competition No. 49 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 50 — Domestic animals. Closes June 30.

Competition No. 51 — Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 52 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 53. — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

Neg. by Danvers, St. Louis.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in

addition to our address and number of competition may bear that of sender. Accompanying, a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

A CONSOLIDATION.

We beg to announce the organization of the Anthony & Scovill Company, a corporation formed under the laws of the State of New York, with a capital stock of $2,500,000, for the purpose of acquiring, controlling and extending the business of the several companies hereto subscribing.

The executive offices and salesrooms of the new company will be located at Nos. 122-124 Fifth avenue, New York, with a branch office in the Atlas block, Randolph street and Wabash avenue, Chicago.

The officers of the company are R. A. Anthony, president; F. A. Anthony, vice-president and treasurer; C. B. Stanbury, second vice-president; A. C. Lamoutte, secretary (formerly the vice-president and manager of the Scovill & Adams Company, of New York).

W. I. Lincoln Adams, former president of the Scovill & Adams Company, of New York; Thomas W. Stephens, former president of the Columbian Photo-Paper Company, and W. T. Wisner, formerly a director of E. & H. T. Anthony & Co., will, with the above-named officers, constitute the board of directors.

It will be the policy of the new company to prevent as far as possible the contraction of credit by extending to customers in good standing a line in accordance with the credit limit allowed them by the various constituent companies.

The Anthony & Scovill Company will also be trade agents for the Hammer Dry Plate Company, of St. Louis, Missouri.

We thank you for the favors and patronage accorded to us in the past, and hope that you will bestow the same courtesies on the new company.

Very respectfully,
E. & H. T. ANTHONY & CO.,
New York.
THE SCOVILL & ADAMS COMPANY,
Of New York, New York.
COLUMBIAN PHOTO-PAPER COMPANY,
Westfield, Mass.
GOODWIN FILM & CAMERA COMPANY,
Newark, N. J.
THE MONARCH PAPER COMPANY,
Binghamton, N. Y.
AMERICAN OPTICAL COMPANY,
New Haven, Conn.

THE OHIO-MICHIGAN PHOTOGRAPHERS' ASSOCIATION.

The next convention will be held at Cleveland, August 27, 28 and 29. The Photographers' Club of Cleveland invites us to meet in that city and, together with the local dealers, will do all in its power to make the convention a success.

We are already assured of fine exhibits from some of the foremost workers outside of our States, and everything points to a successful, enthusiastic convention.

Announcement regarding prizes will be made next month. There will, however, be an incentive for best efforts, so that it will pay you to get busy right away and be ready to show the best that you can do.

C. S. BATEHAM, President,
Norwalk, Ohio.
FRANK S. CLARK, Secretary,
Detroit, Michigan.

HAVE been purchasing THE PHOTO-BEACON from my news-dealer for the past two years, and think that each issue is better than the preceding one.

EDWARD FREDERICK.

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER III.

THE HUMAN FIGURE.

We have seen how the variation of space is an important factor in the placing of a portrait group as well as a single head, but in this paper we shall consider more particularly the variation of line as we find it in the human figure, accepting as basic principles, first, that beauty lies in the variation of line, and secondly, in the variation of different masses. Later on we shall show how these same principles, variation of mass and line, are utilized in the composition of genre subjects as well as landscapes. But before I can treat the subject in this more complicated form, I will take up the line in a single figure on the ground that if we understand a part thoroughly, we shall be able to put the whole together more intelligently. Then we shall discover how this principle of line is carried out in a good picture and how it plays the all-important part in its composition.

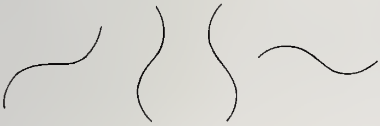


Fig. 7.
The "S" line.

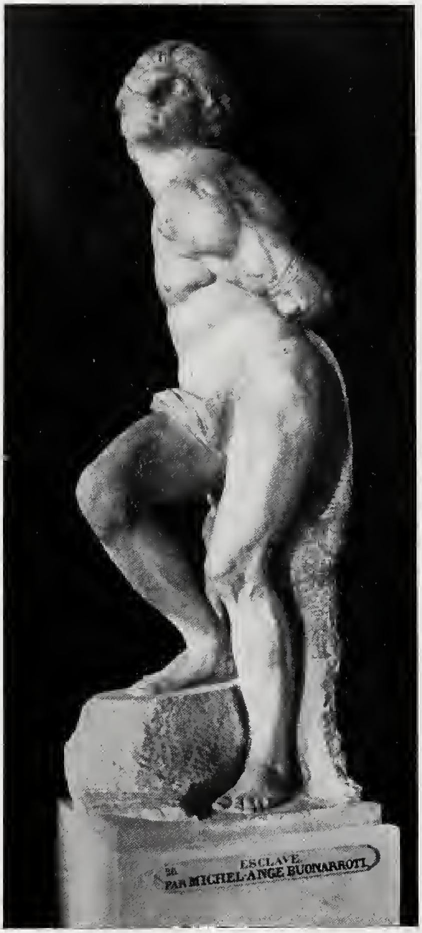


Fig. 8.

Notice the beautiful flowing rhythm that runs through the entire figure. The figure itself describes a compound curve, and would lend itself well to accessories with other figures if it was in an arrangement with them.

First of all, let us take the different kinds of lines, as lines and nothing else, and I shall endeavor to convince you that the " S," or varied form of the curved line is more beautiful and has more esthetic charms than any other. The absolutely straight line can be made very interesting when arranged in a geometrical design, and will sometimes serve well in a picture, giving a satisfying sense of strength, but its principal function, as we shall show later on, is to make more beautiful, by contrast, the flowing beauty of a compound curve. It is a curious fact that the absolutely straight line was carefully avoided by the Greeks in the construction of their wonderful buildings. The columns of the Parthenon, for instance, are not straight, but slightly curved, and the lines of the steps at the base are not exactly straight as you might think, but are ever so slightly raised in the center.

Some think this was done to correct an optical illusion, but a far greater number hold that it was done for purely artistic purposes; so we see the Greeks were clever enough to combine constructive and beautiful qualities in a single line, and this, if I needed other authority than nature, substantiates my theory that variation is the key-note of composition.

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* Copyright, 1902, by F. Dundas Todd.

The "S" line is at once the most beautiful and the most varied line in nature. I shall attempt to show how its influence is felt in every beautiful thing. Nature is of course the school of art we must all attend, and as the human figure is the most beautiful thing in nature, let us take a careful look at it and see what it may teach us about the beauty of a line. After we have discovered what charms us in a single figure, we shall understand far better how to combine several, so that each shall enhance the beauty of the others, which is one of the many things to know about in composition.

Take the repulsive and angular forms of the skeleton, marvelous in its constructive sense, but not beautiful, and see how nature has covered up this hideous frame and transformed it into its most beautiful creation, "The human form divine." In this wonderful structure the compound curved line is repeated over and over again. The muscles of the neck and shoulders are so placed as to make a rhythmical flow of curved lines over the shoulder. The arm is articulated into the clavicle, which in turn is attached to the sternum at the throat so that when the arm is elevated in action, the action starts from the center of the body. All the muscles of the shoulder rise with it, and no matter in what position the figure is placed the lines of the arm will be harmonious and flow gracefully together. Let us take the body and consider its members separately and see if their construction teaches us any lesson in the study of line and mass variation. Note how the construction of the leg produces a beautiful compound curve. Notice that the muscles are brought into prominence first on one and then on the other side of the bone and so cunningly varied as to lead the eye in the path of a curve. Take the well-developed leg of a man, for instance, in front view; the greatest prominence is at the thigh on the outside. As we descend the muscles become more prominent on the inside in easy, graceful curve. Below the knee the muscles of the calf are the more prominent. From here the ankle bone carries the line in again and it terminates in a graceful curve over the instep and foot. The profile view of the leg shows this "S" line to even a greater degree, the prominence over the cheeks of the thigh, balanced by the full curves in front and lower down, sweeping back into the calf of the leg and forward again onto the instep and foot.

The arm is constructed on exactly the same plan, the easy flow of the various muscles completely hiding the straight and ugly bones upon which they are attached, while the exquisite curves of the hand finish the whole.

On considering the figure as a whole, the same simple truth is made even more apparent. If the weight of the body is thrown on one leg, the opposite shoulder, in order to recover balance, is naturally elevated a trifle and the relaxed knee sinks a little, so we have at once the subtle "S" line of beauty running through the entire figure.

It is quite impossible for one to go over the countless positions into which the figure can be posed, but an afternoon in the art gallery with some of the exquisite antique statuary, "Hermes," "Narcissus," "Venus de Milo," Michael Angelo's "Slave," and many others will show you that I am right. In all of them the "S" line is to be found, and the more beautiful the pose, the more marked will be this very quality.

It seems to me that this proves conclusively that the "S" line is the very key to a graceful pose, and so it must be one of the keys to a good composition of several poses.

I have often said that one could learn composition from a careful study of the nude figure. Not only are all the principles of line beauty to be found, but the variation of masses as well. With what marvelous beauty are all the parts proportioned to each other, combining strength and grace in all and weakness in none!

The figure is built on a conventional plan, that is, similar parts on both sides of a common center, but all the parts of each are different. Take the arm, for instance: The upper arm is short and thick, giving strength and solidity; the lower arm is longer and more tapering, while the hand is of entirely different form, much shorter and flatter. We also notice that the arm and hand considered as one member has its longest section in the center, and this form of construction is repeated in the fingers on a much smaller scale. First joint, short and thick; the second long and tapering, and the last joint the shortest of all. The discriminating observer will discover in this a beautiful variation of masses which is one of the canons of art.

Perhaps this is one of the reasons why an arm is more beautiful than a bamboo pole, whose joints are laid out on a gradually increasing scale. Now, a bamboo pole is a thing of beauty of a lower order, and when compared to a piece of plain shafting is, by reason of what variation it has, a beautiful thing. However, in the human figure nature goes still further by varying with still greater art the order of variation of the different sections of the whole and by introducing the compound or varied curve. Thus, in the arm the different sections are of varied lengths that are not on a gradually increasing scale, but alternating, and combine beautiful compound curves that flow gracefully into each other.

I feel it very important to have my reader thoroughly understand the beauty of a single figure and to be able, by knowing in what its beauty consists, to choose a pose that will bring out all its beauty of line. Unless he can do this well, and understand it thoroughly, it is sheer folly for him to attempt compositions, for, as I said before, the beautiful lines of the figure are the very essence of good composition, and when we come to make arrangements of more than one figure the lines of all must flow gracefully together as the different parts of a single figure do. The group must have that sense of rhythm that characterizes the graceful lines of the body.

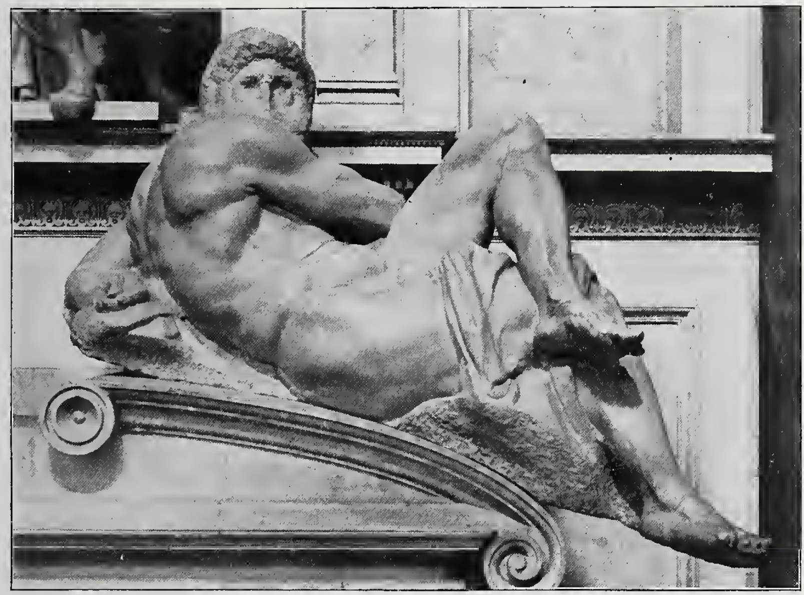

FIG. 9.

This figure, like the Slave, is a beautiful example of the composition of a single figure. The "S" character of the line referred to is too apparent to need further comment.

ISOCHROMATIC PHOTOGRAPHY.*

CHAPTER II.

COLOR CONSTANTS.

The next thing which must be considered is what are known as the "color constants," and it is necessary, if the student desires to become proficient in isochromatic work, that he thoroughly understand this subject. It presents no difficulty and it opens out to him the entire field of colorwork and its bibliography.

Although we can isolate a small colored slip in the spectrum and fix its positions by means of the neighboring lines, yet that is not sufficient — we must be able to refer to it in some more definite manner, and understand something more about it.

Electricity is divided and governed by three "constants" called the volt, the ampere and the ohm, and in the same way the science of light and color is governed by its three constants called Hue, Purity and Luminosity. The hue of a color is that which first impresses us, namely: It is red, yellow, green, blue, etc. The second constant, that of purity, means that it is a hue which is unmixed with white. A pure color does not necessarily mean a bright color, for the spectrum contains colors which are pure and yet they are of unequal degrees of brightness — the yellow for example is much brighter than the red or blue, and this brings us to the last constant, that of luminosity. This is what may be termed the "brightness" of color and means the total amount of light which it reflects to the eye, and is thus perfectly independent of the hue and the purity — for example, a small quantity of black may be mixed with some pure yellow and it may be compared against a blue. The yellow, although degraded with the presence of the black, would still be brighter than the blue, therefore, to speak correctly and scientifically, the hue would still be yellow, the purity would be lower than that of the blue, while the luminosity would be higher or greater.

It is very necessary that the student thoroughly comprehend this before going further — for these terms will be in constant use throughout these articles, and if this point is not definitely understood, then neither will what follows. He must, therefore, study carefully this "dry" explanation and in the end he will realize that there can be nothing of more absorbing interest than this subject of "light and color."

I have now come to the point where I find it necessary to use the graphic method of explanation, one that will appeal to the eye better than will a mass of printed characters, a method which in the form of an illustration shall portray at once the special characteristics of what is being discussed, incorporating in itself its own explanation, and doing it better than any number of pages of reading matter.

Should I be desirous of showing to my readers by the aid of an illustration the effect of the solar spectrum upon normal vision, the course that would naturally suggest itself would be to give a picture of the spectrum, but as this is particularly difficult to prepare, there is fortunately another method known as the spectrum curve, which can be employed and which I shall now endeavor to explain.

The luminosity or brightness of a beam of white light is, for the sake of convenience, always taken to represent 100 units. Now if this 100 unit beam be analyzed by a prism, it will, of course, be broken up into its six primary colors, and each one of these six must, therefore, represent some definite number of the primary 100 units, and Rood has calculated just what is that interrelationship between them in the following table:

Dark red	.33
Pure red	2.05
Red	4.57
Orange red	11.50
Orange and orange yellow	28.10
Orange yellow	32.76
Greenish yellow, yellow-green and green	12.59
Blue-green and cyan blue	4.57
Blue	2.05
Ultramarine	.37
Blue-violet	.14
Violet	.05

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* Copyright, 1902, by F. Dundas Todd.

Recollect, therefore, that although the colors are practically pure, the luminosities (brightness) are vastly different, as the above table, and the most superficial observation of the spectrum shows; so, if we take a piece of paper ruled off into squares of equal size and ten squares high, each square will stand for ten units of luminosity and the entire height for 100 (white light). Further, if the number of squares horizontally be divided off by appropriate marks (either pointed off on the base line or continued up through the entire height) and marked to represent the lettered Fraunhofer lines, then it becomes an easy matter to show any spectrum which one may be desirous of illustrating. For example: By the curve in Fig. 6, the visual appearance and correct luminosity of the solar spectrum is shown. First the horizontal lines being marked off from 0 to 100 on the side, and the Fraunhofer lines indicated, we see by reference to the table that the yellow about the region of the D line has the highest luminosity, while the blue about G is very low, etc.; therefore, yellow as possessing the highest luminosity is placed at 100. This is pointed off and so on with the remaining colors, and then these points are all connected by a line as shown, thus giving at a glance an illustration of the extent and luminosity of the spectrum. Again we desire to record the effect of the spectrum of white light after passing through a solution of picric acid — which absorbs the violet and blue of the spectrum. The action is graphically shown in Fig. 7, where, as may be seen, the curve dies down at about the region of the " F " line, and what in Fig. 6 was blue or violet is now represented by blackness or absence of light.

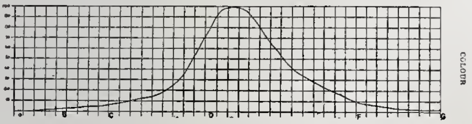


Fig. 6.

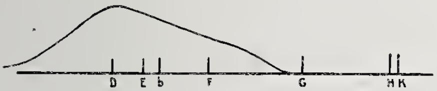


Fig. 7.

Reference now must be made to the change in the spectrum after passing the beam of white light through a colored screen or colored solution of some dye stuff. The usual observation made by any one upon looking through a sheet of red glass is to the effect that everything has been "turned to red," but from what has already been said, the student is now in a position to know that this is not so. The white light falling upon the object has not been changed, but the red glass has simply stopped all other light than the red, generally speaking, and all the remaining five colors which go to compose the white light are absorbed by the glass, and stopped or extinguished, just as distinctly as does an extinguisher on a candle flame.

BACKING PLATES.

In looking over recent numbers of The Photo-Beacon, I noticed several articles on backing plates. Most of those processes are very good, but I prefer a more simple backing. I have ready several sheets of black or brown paper, cut a very little smaller than the plates. Then I take a shaving mug and place a round cake of Williams' shaving soap in it and then stir up a lather with a shaving brush. I spread the lather on the sheet of paper with the shaving brush and place the paper on the plate and roll into contact with a print roller; then I wipe the lather from the edges of the plate and place it in a drying box; if in a hurry I place it in the plateholder. At once the lather, if properly made, will hold the paper to the plate without danger of it coming loose, and in no other process can the backing be so easily or quickly removed. All that is necessary is to slip a knife blade under one corner and peel the paper off, then with a damp rag remove the film of soap from the plate. The papers can be used many times. Paper backing is as good as any other kind. The only trouble has been with the material used to stick the paper to the plate. If stuck with glycerin it never gets thoroughly dry and the plates work slower when any backing is used which attracts moisture, and if stuck with gelatin it is difficult to remove, but if stuck with a good lather it sticks well and is easily removed. When the paper is removed it has a film of soap on it. It can often be fastened to a fresh plate by simply wetting the paper and rolling it into contact with the plate, though it is not so good as using fresh lather on it. I never expose a plate without backing it as it pays well for the little trouble it is to back them. H. L. MALONEY.

A NEW HONOR FOR THE EDITOR.

For some reason best known to themselves, the famous little colony at East Aurora has deemed your humble servant worthy of being elected to the American Academy of Immortals, otherwise the Society of the Philistines, as will be shown by the reproduction of the fellowship card on the opposite page. I must frankly confess that I do not know what particular value is attached to membership in this academy, but of one thing I am convinced, that money could not buy it, and so for that reason I have accepted the honor. Years ago an old friend of mine advised me never to refuse what I got for nothing, but I could never rise to his ethical standard; but I have gone half way, and I never refused for nothing what money could not buy, and this, I think, falls under the latter category. I am particularly attracted to the academy by one clause which says it consists of men and women who believe in allowing the widest liberty to individuality in thought and expression. For a very large part of my lifetime I tried to live according to other people's ideals, but in recent years I have tried to live according to my own, and, I think, with advantage to myself and a great many others. I hold most tenaciously to my own opinion, but, on the other hand, I welcome the freest expression of those held by everybody else, partly because I dearly love the conflict and partly because out of them I get valuable additions to my own. F. DUNDAS TODD.

A BIG CAMERA.

NEW YORK, January 24, 1902.
Mr. F. Dundas Todd, Chicago, Ill.:

DEAR SIR,—The following item of news might be interesting to readers of THE PHOTO-BEACON, and we briefly state the warm facts.

The Folmer & Schwing Manufacturing Company, of 404 Broadway, New York city, have just completed for a Western photographer a mammoth skyscraper camera, taking a plate 24 by 36, with 60 inches focal capacity, being fitted with light-weight curtain slide holders; double swing; reversible back; rising and falling front and back focus.

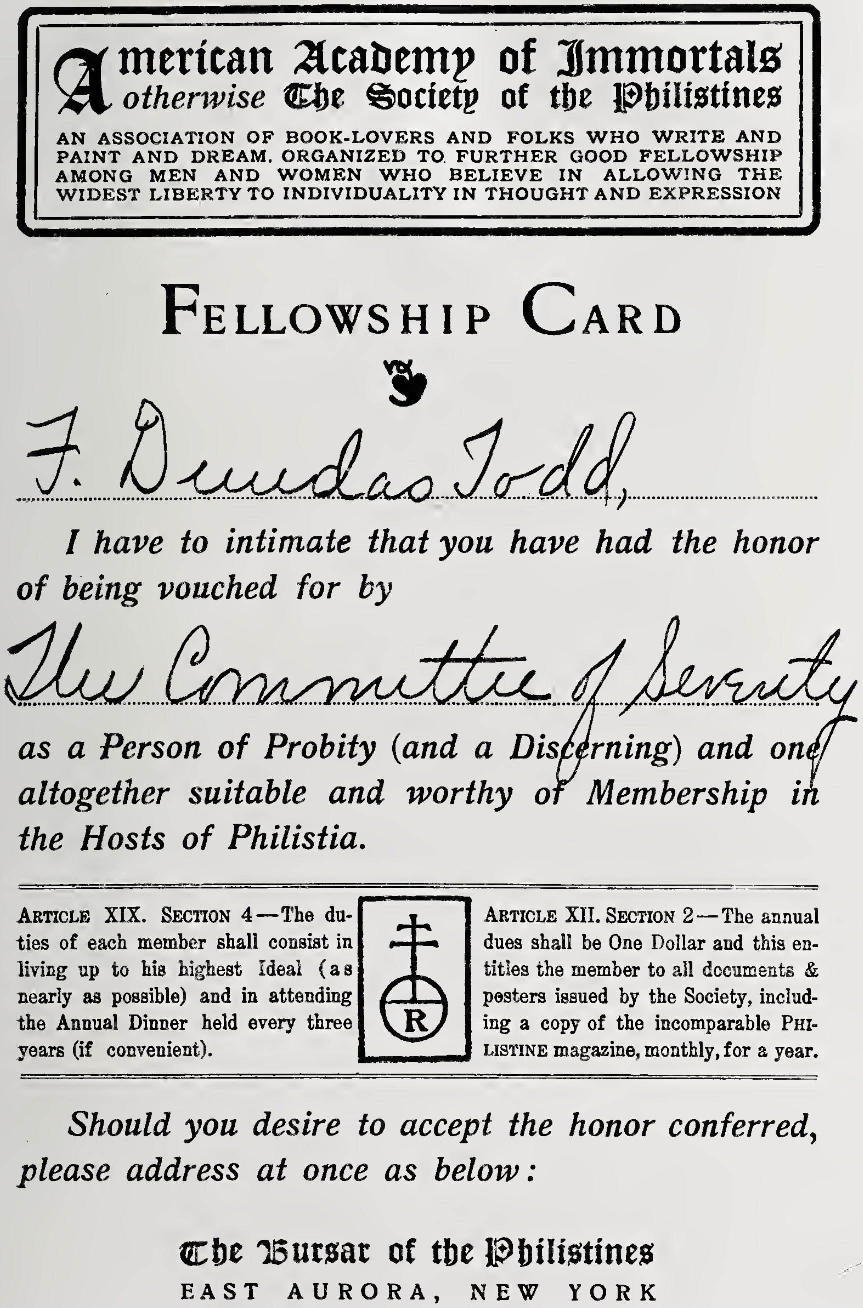
Every adjustment of the above camera is operated by a fine rack and pinion, or worm screw. The entire woodwork of the camera is ebonized, and all metal parts oxidized, and is furnished with a special carrying case made of light material, making the entire outfit very portable.

The camera is so arranged that an extra wide angle lens of six-inch equivalent focus, or any lens varying in focus up to sixty inches may be used.

Yours very truly,
THE FOLMER & SCHWING MFG. CO.,
W. F. FOLMER, President.

THE LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, 1903.

The managers of the exposition have just issued the official classification of exhibit departments, which is a book of about sixty pages. There is no necessity for photographers going very fully into the many departments and their subgroups, but there will be a very great feeling of disappointment to learn that photography has been included in the department of Liberal Arts, rather than in that of Art. The result is that photographs will be found associated with printing processes, instruments of precision, surgical instruments, musical instruments, theatrical appliances, paper manufactures, civil engineering, etc. The management, therefore, will have no one but themselves to blame when the pictorial photographer stands aloof, and on the walls in all probability will appear merely ordinary machine-made photographs. The managers consider photography, evidently, to be a mechanical process and therefore only mechanical work can be expected.



American Academy of Immortals
otherwise **The Society of the Philistines**

AN ASSOCIATION OF BOOK-LOVERS AND FOLKS WHO WRITE AND PAINT AND DREAM. ORGANIZED TO FURTHER GOOD FELLOWSHIP AMONG MEN AND WOMEN WHO BELIEVE IN ALLOWING THE WIDEST LIBERTY TO INDIVIDUALITY IN THOUGHT AND EXPRESSION

FELLOWSHIP CARD

F. Dundas Todd,

I have to intimate that you have had the honor of being vouched for by

The Committee of Seventy

as a Person of Probity (and a Discerning) and one altogether suitable and worthy of Membership in the Hosts of Philistia.

ARTICLE XIX. SECTION 4—The duties of each member shall consist in living up to his highest Ideal (as nearly as possible) and in attending the Annual Dinner held every three years (if convenient).

ARTICLE XII. SECTION 2—The annual dues shall be One Dollar and this entitles the member to all documents & posters issued by the Society, including a copy of the incomparable PHILISTINE magazine, monthly, for a year.

Should you desire to accept the honor conferred, please address at once as below:

The Bursar of the Philistines
EAST AURORA, NEW YORK

MY EXPERIMENTS.

NO. VI.

"*Experientia docet*"; if it does not, then nothing will.

Several years before it occurred to me to buy a camera I had learned to make blue-prints — it was, as a matter of fact, part of my duties as draftsman in a railroad office to make blue-prints.

One day I bought a fine overcoat, had my hair cut, and exposed myself before a professional's camera.

In a day or two I was furnished with a proof.

I showed it around to the boys in the office, and one of them said: "I wonder if you couldn't make a blue-print from that?"

"Great idea," thought I, and at once proceeded to make a trial.

A suitable piece of blue-print paper was cut, the proof laid over it, film side up, and out it went into the glad sunshine.

Here is where *experientia* got in its fine *doceting*. It taught me in one lesson, for which no special charge was made, that proofs get sunburned, opaque, dismal and featureless when flaunted, unveiled, in the sun-laden atmosphere. Since then I have not tried to use an unfixed positive to make blue-prints or any other kind of prints with, but I have tried many a blue-printing experiment, and one of them was sufficiently different from the ordinary to justify its use in this article.

Somebody told a photographic journal man how to make black-prints by bleaching out a blue-print with an alkali and then converting the iron image on the paper into a black tannate with tannic acid. Without trying it himself (I think), he told his readers all about it and recommended it as the best ever.

I was one of the readers; the scheme sounded good and I tried it.

After making the trial I was in a position to prove that the method would give prints with blue-print paper that are not blue, but it would not give black ones.

Failing to get black tones with tannic acid, I tried gallic acid, which is the next higher acid in that series, and had slightly better tones, but still they were not black.

Then I tried pyrogallic acid. Afterward I tried a mixture of all three of the gallic acid group. With each one of them, and with various mixtures of them, it was possible to get dark tones; each one of them, and each varying mixture of them giving a somewhat different tone, but none of them were black.

Salicylic acid is a qualitative analytical reagent that gives a deep purplish-violet reaction with iron salts.

The gallic acid cognates give a brownish black reaction with salts of iron, and salicylic acid gives a dark violet one. Why, then, would it not be feasible to so mix one of the gallic acid group with salicylic acid that the resultant mixture would give a true black?

As soon as this possibility presented itself to me I tried it.

The result was better than anything that I had tried until then, but the whites were not good. This, I soon determined, was because all of the unused iron had not been removed from the paper in the wash-water.

The next time that I made the trial I used a rather contrasty negative and fixed the print with hydrochloric acid before bleaching it with ammonia, and then I got blacks and pure whites.

I have lost the memoranda that I made at the time, but if any of my readers wish to make the experiment, let him take two pint bottles, put half an ounce of gallic acid in one of them, half an ounce of salicylic acid in the other, and fill them both with hot water. These are the stock solutions.

Make a good, strong blue-print, fix it well with water containing from one to two per cent of hydrochloric acid; rinse it in clear water and then soak it in water containing a small quantity of ammonia water until the image has almost or quite faded away. Then rinse it through two or three changes of clear water.

Since the salicylic acid solution will give you violet tones and the gallic acid solution brown-black ones, you can now mix them as you see fit.

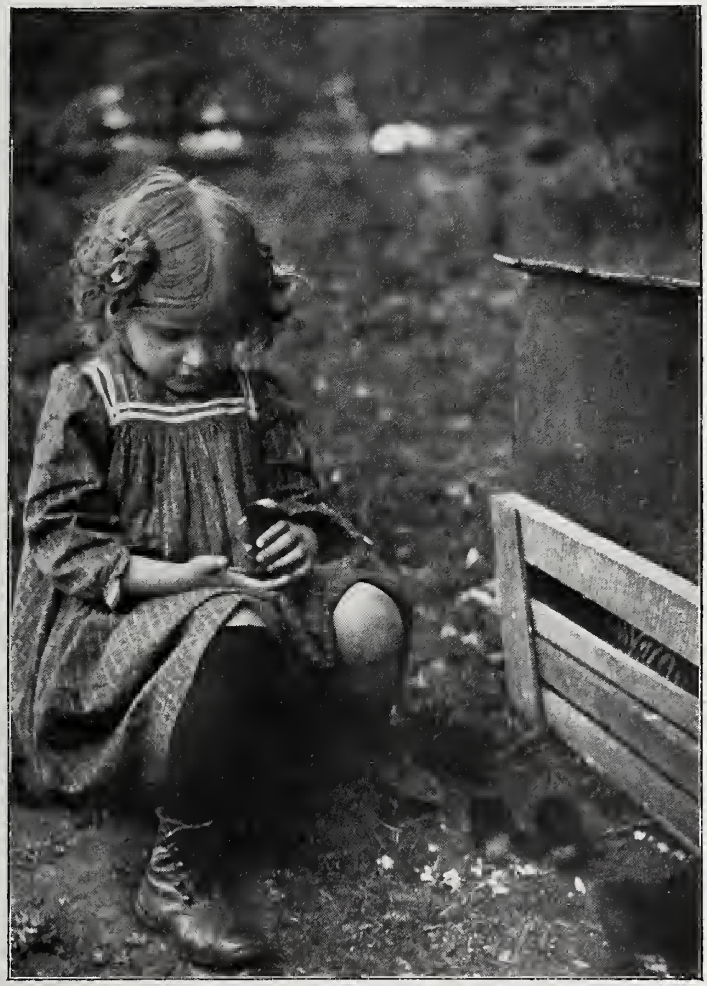
My best success, as I remember it, was with three parts of the gallic acid solution, one part salicylic acid and six parts water, but any other combination can be used.

Pyrogallic acid can be used instead of gallic, but in that case it will be necessary to dissolve one dram of oxalic acid in the water with which the pyro stock solution is made. If this or an equivalent precaution is not taken, the solution will oxidize too rapidly and become useless.

Tannin can also be used, but it is inferior to the others.

Prussian blue, which is formed when blue-print paper is exposed to daylight or arc electric light, is ferro-ferricyanide of potassium, i. e., part ferrous salt and part ferric salt. If it were all ferric salt, tannin and the other gallates would turn it to a blue-black, but as it is part ferrous it only becomes a muddy, brownish black.

If, now, a strong oxidizing agent be added to the gallate, the iron will all be



Negative by James E. Taggart, Delaware, Ohio.

SECOND PRIZE.

raised to the ferric state, and the result will be a blue-black tone.

The most convenient oxidizing agent is probably nitric acid.

Add one dram of nitric acid to the gallic acid stock solution, and one dram to the salicylic acid solution; mix them as directed above, and soak the bleached blue-print in the mixture for half an hour.

Rinse the tannated print in several changes of clear water and dry it.

There are lots of things that can be done with blue-prints, for iron salts give an almost endless variety of reactions.

One interesting experiment is to bleach the blue-print with an alkali after it has been fixed in acid, and then soak it for a short while in peroxide of hydrogen, after which an immersion in a solution of succinate of ammonium will bring up a reddish-brown image of considerable permanence.

Sulphocyanide of ammonium can be used instead of the succinate and a blood-red color is obtained, but it can hardly be called permanent, since the red salt so formed is soluble in water and most other solvents.

RALPH MARTIN.

LETTERS TO THE EDITOR.

Mr. F. Dundas Todd:

DEAR SIR,—Your article in the February PHOTO-BEACON on "Photographic Sociology" sets me to thinking how to get in touch with other photographers whose tastes run to making sun pictures as do mine. There is scarcely a town where the photographers, thanks to the cheap camera, can not be numbered by the hundreds. Now, all these people would have their interest tenfold increased by associating and holding exhibitions.

I suppose any amateur photographer accumulates a lot of negatives which he looks over occasionally, and he makes prints for a while and pastes them in an album or mounts them on cards, but *cui bono*, I take it, most of them are like me in finding this accumulation of pictures after a while uninteresting, and many give up the art entirely because pictures are so plenty and so good nowadays. Thanks to the half-tone process, there is a surfeit of such things.

To really enjoy photography one needs to be in touch with kindred spirits who can appreciate the picture you have worked so hard to get. To get this sort of sympathy, I take it, the photographic club is the thing. I have long wished to form such a club here, but I have waited hoping some article would appear, either in THE PHOTO-BEACON or elsewhere, giving me the information I want as to the correct management of such a club, how often it is advisable to meet, how often to hold exhibitions, rules for the conduct of the same, etc.

I am sure if a good article or series of articles on this subject were published in THE PHOTO-BEACON it would lead to the formation of many such clubs and give an impetus to photography, especially amateur photography, which would benefit not only the club members but the manufacturers of photographic apparatus and materials.

Possibly there have been such articles published, but before I became an enthusiast, and so have been missed. You are so familiar with photographic exhibitions and probably with clubs also, that you surely could give your readers some good advice on the subject.

If you have written on this subject, when can I get a copy of the article? If there is a hand-book that contains the information sought, I would esteem it a great favor if you would refer me to it. So far as my reading goes, the subject is not touched, and it is a fruitful field.

I was much surprised one day to see in the darkroom of a professional photographer friend what looked like a bushel of the little film spools used in the smaller kodaks. It was a revelation as to the number of people doing photography in one way or another.

An agent for one of the leading camera manufacturers who was here told me he had taken an order from one of the big department stores of Chicago for fifteen thousand box cameras of a certain cheap make. He said the farmers and their daughters and sons bought them as much as city people. Just think of the miles of film run through these cameras.

Let us get together for mutual fun and improvement. Let THE PHOTO-BEACON tell us how and it will quickly be done.

Sincerely yours,
MONTGOMERY MEIGS.

Negative by Frederick B. Noyes, Chicago.

THIRD PRIZE.

In connection with Mr. Meigs' letter, I would point out that an article entitled "Organizing and Conducting a Successful Camera Club," appeared in THE PHOTO-BEACON for May, 1900. Unfortunately, this number is entirely out of stock, but if sufficient interest be shown by the readers I will be glad to reprint it at an early date. However, I may as well state that the best way to organize a camera club is just to go ahead and organize it, and I would especially urge those who attempt to undertake this task to remember that the members will be especially interested in photography and nothing else, and that, therefore, it is the height of wisdom to get down to business at the very start. So many people make great preparations to do things that they exhaust themselves before they get to the point of doing, and consequently accomplish nothing, so I would advise that little or no time be wasted over the drawing up of constitution and by-laws, but rather arrangements should be made for teaching the principles of photography to the members. A good practical syllabus should first of all be compiled, dealing with such elementary subjects as how to handle a camera, how to expose, development, printing, taking up the more popular processes — toning, mounting, etc. These are the subjects that the average photographic enthusiast is especially interested in and on this foundation must be built up the superstructure. The pictorial side will be a process of evolution, and those who have leanings that way must have patience with the ordinary rank and file in order that they may become accustomed to the idea that there is such a thing as a picture side to photography. It will take possibly months for the idea to find a lodgment in the head of the average individual, but once it does attain a footing nothing will prevent it growing and possibly becoming a great big thing.

I am no great believer in rules, because too often they merely provide material for contentions, and so it is just as well to let them grow as to start off with a brand-new set at the beginning. Whenever the society gets to a point where a rule of any description is found to be necessary, it can very easily be drafted and added to the list.

Meetings should be at least once a month; oftener, if possible, and every member should be urged to bring along a few of his prints for discussion. It is simply surprising how many good sermons can be preached, provided a text or pretext is given. Without the latter, the discourse would never have had a being. F. DUNDAS TODD.

PLANTERSVILLE, TEX., Feb. 9, 1902.
F. Dundas Todd, Chicago:

DEAR SIR,— Presuming on the start that you are the recipient of more or less praise, I want to add my mite, as it were. I am a subscriber to six photographic journals, and have been for a number of years, and let me say that in none of them do I find more pleasure and glean more knowledge of things photographic than I do in reading THE PHOTO-BEACON.

" Photographic Sociology " is the best thing I can remember of having read. It is good, sound common sense and there is a dearth of it in the average photo journal. Yours most truly,

W. C. CHURCH.

THE EAGLE'S GROWTH.

The American eagle has grown from a very downy eaglet to a pretty big bird since the year 1776, and if the same rate of increase be kept up for another hundred years it looks as if his wings might cover at least one-half of this world. Not less noteworthy is the growth of the bird that is the emblem of the American Aristotype Company, and even a casual glance at the back cover of this issue will give a faint conception of the remarkable growth of this company since 1889 until the present moment. It is still growing and one is apt to wonder to what dimensions the institution will attain in the course of the second thirteen years of its existence.

PHOTOGRAPHS WANTED.

The *National Homemaker,* 1419 F street, N. W., Washington, D. C., announces that it has organized a series of contests for photographs of scenes of irrigation operations and of homes established by the irrigators. Full particulars can be had on application to the magazine.

THE Toronto Camera Club, Toronto, Canada, announces that its eleventh annual exhibition will be held at the beginning of April and that two classes, one for prints, direct or enlarged, and one for lantern slides, will be open to competitors from all over the world, medals being given in each class. All prints for exhibition must be entered before March 22, 1902. The secretary is Hugh Neilson, Forum building, Yonge street, Toronto, Canada.

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

IN NATURAL COLORS.

In the year 1850 was announced a wonderful discovery in the daguerreotype process. No less a discovery than taking with the picture the natural colors of life.

A clergyman of the name of L. L. Hill, of Westkill, a village upon the Hudson river, New York, was the fortunate discoverer.

What Daguerre gave the world — an image in *light* and *shade* — was an astonishment, but it lacked the perfection of color of nature and life. Certainly a great lack and regret. Now came the reverend gentleman with *his* discovery to make the infant art complete. We might now expect to see the blue or violet eye in its perfection — peach-tinted cheeks, rose-leaf lips, the varied shades of gold in baby's hair would delight us. Bright and rich colors of ribbon and dress of course were not overlooked in Mr. Hill's discovery. Everything was said to be there. The newspapers said these things — and it is as easy to make vivid and pleasing colors as weak or fady on an editorial table.

Daguerreotype men of prominence from the large cities visited Mr. Hill, and, it was alleged, made tempting offers for his secret of producing natural colors. He would not sell. He guarded it closely, all pictures were carefully sealed from examination or inspection. All customers were cautioned against permitting likeness men to remove the glass covering the picture, or in any way to tamper with them.

Things much coveted and not attainable are more wildly wanted than the easy things of life. So the Hillotype was pined for by many. We fellows at a distance from New York had never seen one of the Hillotype pictures; for that matter, very few had. We were

Photographed and copyright, 1894, by F. Dundas Todd. From collection of Jas. F. Ryder.

FOURSCORE AND FOUR.

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*Copyright, 1901, by James F. Ryder.

quite dependent upon newspaper accounts and inflamed by them.

The business of likeness-taking was just about ruined; people were waiting for the pictures in natural colors. The sinful likeness man, with scant reverence for "the cloth," made hard criticisms upon "that minister" who had paralyzed the business, saying "he had better stick to his preaching and let picture-taking alone."

It was said he preached upon the Sabbath, gave "talks" and prayer meetings on Friday evenings, and during the week took in many a dollar for Hillotypes.

The practice of men of the camera in those days to give a semblance of life coloring to the likeness before putting it in its case, was to touch up with dry prepared color by a camel's-hair brush or pencil such parts as cheeks, lips, etc., which required color, but the highly polished surface of the plate did not readily receive the pigment, and it could not forcibly be made to adhere. The Hillotype was anxiously waited for as a remedy to this imperfect method.

Before the keen edge of anxiety was allowed to become dulled by much delay, the craft throughout the country received circulars announcing the publication of a book by the Rev. L. L. Hill, giving the history and practice of the daguerreotype, valuable formula and methods of work complete. The most startling feature of the coming work was that full and complete instructions were to be given for the production of the Hillotype. The price of the book was $5 by mail, postpaid. No book would be mailed until the entire edition was ordered, the money to accompany the order, of course. Those who ordered first would be first to receive the book, as all would be mailed in regular list order — first come, first served. Well, we all tumbled over each other at the doors of the postoffices to be first to get our money in.

In the interval of some weeks, in which I was waiting, I was busy making Hillotypes in my mind. I was studying diligently — nothing escaped me. I noticed carefully the color of eyes, of complexions, of rosy, well-rounded cheeks and ripe lips. Blonde and golden hair had a special fascination for me. I made mental sittings in Hillotype of all the fine subjects I saw. I made a list of subjects I should invite to pose for me when I received my book. I became so impressed with red hair in my study that I have never gotten over it. Little "tots" of children with golden hair were my special delight, men with red noses had an interest for me. I certainly dreamed out some beautiful work in those days.

At last the book came. I entered my little studio, locked the door — that I might have all the joy to myself without interruption — went direct to the chapter on Hillotype, which was the last in the book. I read with bated breath.

The book revealed to me that after the plate was finished, ready for casing, it should be flowed with a thin wash of transparent glue dissolved in distilled water. This, on drying over a spirit lamp, would give the surface of the plate a "tooth," a mild, sticky coating to which the color, applied as usual with a camel's-hair pencil, would adhere, as it would not to the highly polished surface of the plate. I could sympathize with the little girl who found her doll stuffed with sawdust.

I felt the reverend gentleman had given me as smooth a sell as I could have received from an accomplished horse-trader in a "swap." I do not remember announcing by advertisement or otherwise the Hillotype as one of my possessions. I do not recall an instance of any daguerreotype man making a claim to ownership of that wonderful improvement to our young art. I fancy they felt it was "one on them," and they did not care to parade the fact.

If the reverend "discoverer" be still on earth he doubtless takes an occasional laugh up his sanctimonious sleeve on recalling the "easy scoop he took on the boys." He surely is entitled to credit for the habit of discovering natural colors in photographs, he being the first.

Every few years we have new announcements of this discovery which, as a matter of fact, is yet to be perfected.

The usual new discoverer is a Parisian scientist, and the discovery is made after a patient research, or accidentally stumbled upon.

It happens sometimes that a discoverer crops up at Oshkosh, or elsewhere. These discovery announcements are no doubt gratifying to the persons whose names are connected with him, but they are misleading and harmless.

It is true that methods have been discovered and employed by means of which, from repeated printings of different plates, a means partly photographic and partly mechanical, color effect is given, and some subjects, like fruits or flowers, are made to look very natural, but are not absolutely correct. Color may be given by reflection or transmission through colored media, the results of which in some cases are beautiful and a delight to the eye.

These methods are ingenious, and while by their means a photograph may seem to be in natural colors, it is not. The foundation is a plain gray photograph, and dependent upon the reflection or transmission of colored glasses thrown upon or covering it to give color effect. Photographing in natural colors, or natural colors in photographs, is a misnomer — a method of imparting color to photographs would seem more correct. To remove the glass or glasses which give color is to reveal the plain gray photograph which forms the foundation or body of the picture. A person is not red, green or blue because seen through glasses of those colors. The desire to attain wonderful results stimulate efforts at discovery and invention. When the real can not be compassed, a semblance may be accepted. The Indian, whose ambition was to walk over the rainbow, had to be content with walking under it. Birds of the air navigate space above the earth; they rest at anchor in the blue; they sail lazily about; they take a sudden lurch and dive; they tack; they make into the wind; they run before it; out to sea they go, and are lost to view. It seems quite simple. The Creator of all made it possible.

Neg. by Frank R. Bill, Cleveland, Ohio.
From collection of Jas. F. Ryder.

The ingenuity of man has not yet devised or built a machine to successfully rival the bird, though flying machines have become as plentiful as color methods in photography.

What I understand as *natural colors* in photographs, the actuality of which would be a blessing to photography and photographers, would be that the colors *be born with and in the image* as it comes into existence from the camera or as it is evolved by the developer from seeming nothingness to a reality. A straightforward rather than a complicated round-about means involving various processes impractical for general use. An artificial pretense is not the real thing.

A negro is in natural color from birth. A white man blackened up for a cakewalk or a banjo solo, is an imitation, a deception, and *not* in natural color.

Thankful and appreciative for what has been given in devices for imparting color to monochromatic camera products, and hopeful for the future, natural colors in photographs are, to my mind, I regret to say, *not yet.*

It was at Elyria that I received my book on how to make Hillotypes. That was before the advent of the "gold brick."

REPORT OF THE EXECUTIVE MEETING OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

BUFFALO, N. Y., January 16, 1902.

The Executive Committee of the Photographers' Association of America met in Buffalo, New York, January 14, 1902, with all members present.

The first business considered was the reports of Secretary Nussbaumer and Treasurer Barrows, as follows:

SECRETARY'S REPORT.

Received for space and advertising	$2,274.50
Paid to treasurer	2,274.50
Bills receivable	330.00

TREASURER'S REPORT.

Cash on hand January 1, 1901	$3,106.78
Received for membership and dues	2,170.00
Received from secretary	2,274.50
Received from S. L. Stein, balance on entertainment fund, 1900	147.10
Sale of ladies' buttons	48.00
Total	$7,746.38
Disbursed by voucher	$3,366.84
Leaving balance on hand January 1, 1902	$4,379.54

The president appointed H. S. Klein and C. R. Reeves auditing committee, who examined the accounts and found same correct.

August 5, 6, 7 and 8 selected as dates for the convention.

It was decided that there be no prizes offered, but that all exhibits be solicited as complimentary, it being considered that all progressive photographers have a strong interest in the association, and will help to make the display of pictures unsurpassed.

It was decided that Wednesday, August 6, day and evening, be given entirely to the manufacturers and dealers, to be used as they so desire, and that no business session whatever be held on that day.

The following committees were appointed:

Committee on Transportation — J. G. Nussbaumer and C. R. Reeves.

Committee on Badges and Buttons — President Edmondson, J. G. Nussbaumer and H. S. Klein.

Committee on Hotels and Accommodations — President Edmondson, J. G. Nussbaumer and Secretary Reeves.

Committee on Decorations — J. G. Nussbaumer, H. S. Klein and F. R. Barrows.

The secretary was instructed to publish a souvenir, and to insert the names and addresses of all the members and associate members of the association, and to mail to each member of the association a copy of the souvenir thirty days before the convention.

The Committee on Hotels reported that arrangements had been made with various hotels for accommodating members of the association at reasonable rates.

The Committee on Decorations submitted an estimate for the entire decoration of the convention hall, which was accepted by the board, and the contract let for same.

The Executive Committee find that the City Convention Hall of Buffalo, granted by the city of Buffalo, is particularly adapted to the uses of our association, and will fill every requirement.

IN F. W. Headley's "Problems of Evolution," in the chapter on "Intellectual Evolution," we read, page 330: "The very stupid are able to enjoy the blessings due to the labors of discoverers, inventors and thinkers. An invention is often a contrivance by which an almost brainless man is able to do work which requires a great deal of brain. 'You press the button, and we do the rest,' say the directions which accompany the camera. Thus, instead of the skill of an artist, all that is wanted is to press the button."

THE SAN FRANCISCO SALON.

The quality of the work shown at the second San Francisco salon is much finer in point of technic than that of last year's exhibition. No prizes have been offered at this salon, and to this is doubtless due the fact that many photographers represented in 1901 are not represented this year.

Of the thousand or more pictures sent to the committee, about four hundred and fifty have found places upon the walls. Upon entering the hall, the visitor is impressed by the pretty and even, yet varied, appearance of the exhibition, although upon closer examination he regrets that pictures like Emerson's "Old French Flax Spinner," "An Interior of a Fifteenth-century Church," and Dr. Eisen's portrait of Dr. Carl Krone could not have been hung in a stronger light than is to be had in the two darkest corners of the room.

The pictures as a whole are but indifferently well framed and matted. A remarkable little picture from Copenhagen, "Daily News," by Fisher, is matted in a shade of yellow-brown, of which there is no hint in the color of the picture, and which, were the work not as fine as it is, would wholly destroy its beauty. Another noticeably fine picture inharmoniously matted is Walter Marshall Clute's "In the Barn," No. 22; this is unevenly matted in white, green, brown and a nondescript color, and the medley seriously detracts from a picture well lighted and full of interest. The shadows in this little photograph are soft and full of subtle suggestion; they cover nothing that is essential to the meaning of the picture, but are rich, natural shadows such as obstructed, not *blurred,* light actually makes.

To drop the subject of mat and frame and take up the more serious one of perspective and focus: An effort is being made by many artists to produce an effect of softness by an annoying obscurity of outline and form that weakens the strength of contrasting light and shade, and blurs the delicate, receding shadows that do much toward giving roundness and depth to both portrait and landscape photography.

GEE, I'M FULL!
THE SAME TO YOU
FOR NINETEEN TWO.

Neg. by J. C. Strauss, St. Louis, Mo.

So daring a heresy as that of departing from the precepts of Genthe and of Maurer on the subjects just mentioned is not to be thought of; but it were not unwise to ask if even these forerunners in the West of this fuzzy phase of photographic art would not rather gain than lose by an attentive study of such a work as is F. Holland Day's "Pedagogue," and Leat's wonderful little portrait, "The Whistler."

As this magazine is read by students, it will not be inopportune to call the attention somewhat particularly to the terrible lesson of an abuse of the indirect, foggy, misty style so much in vogue in the home exhibition at this salon. A comparison of our Western work with the Eastern and the foreign work will impress upon the observer the fact that true art is likely to be materially hindered by the quantity of fuzz she must appear through, if our San Francisco photographers are to be taken seriously.

A photograph in the hands of even an artist like Dr. Genthe does not gain in mystery, tenderness and suggestion by the wooly mist shown in too large a number of these pictures; while the preservation of perspective — the greatest difficulty of the photographer, working as he must with lens and plate — becomes a hopeless task when wool and fog are shutting from the eye the little, fine shadows and the reflected light that make the modulation of objects and express relative distances.

The reasons why these masses of light and shade must be rigorously preserved under the processes of intensification and reduction are these: A photographic plate records a near and a distant point upon the same plane, and records the almost direct light of sky and sun more rapidly than it records the reflected light from hill and sea.

Upon the exposed plate, then, as it comes from the holder, there is an entirely false record of perspective. The proper use of the ray screen, the intensification of the shadows and the reduction of the light in a landscape or in a marine, and a careful lighting of a portrait subject will overcome the harshness of line and sharpness of contrast in the *right* way, leaving the strength and the beauty of the original unmarred; whereas printing and manipulation of a picture so as to give the effect of an interposed haze or fog loses all the perspective and form that it is desirable to keep in a fine, strong negative.

Before touching upon the individual pictures of the salon, a few more words upon the perspective of sky. It has already been mentioned that the light of the sky, being more nearly direct, is photographed more quickly than the light that is reflected from the earth and other objects. This throws the sky forward. For example: Contrast the two pictures, " Sea and Sky at Moss Beach," by Meeker, of East Oakland, and " Evening on Shasta's Slopes," by Piatt, of San Francisco. Mr. Meeker's picture would have been unapproachable had its maker equalized the light in the sky and the light on the sea. The sky, if reduced, would have fallen back into its proper value; the light on the sea, if intensified, would have brought the water into its right value as we see it with the eye. The limitations of the photograph and the neglected opportunity of the artist to overcome those limitations are here plainly shown.

Mr. Piatt's picture, on the contrary, shows a well handled sky curving back and over into its proper place and value, and the line of the perspective of the hills is a joy and rest to the eye. The foreground of this picture is too long; the atmosphere of the sky would have gained in lightness and airiness if the foreground were trimmed an inch and a half.

An example of an almost perfect handling of water, sky and land in perspective is found in No. 356, " On the Columbia," and No. 359, " Solitude," the work of Mrs. S. H. Ladd, of Portland, Oregon. " Solitude " deserves as high praise as any picture in the salon; its sentiment and technic are well nigh perfect.

Apropos of the subject of softness of outline, observation is directed to two fine pictures bearing the same name — " At the Wharf," by G. Knight White, of San Francisco, and " At the Wharf," by Zimmerman, of Pennsylvania. There is not a harsh outline in these pictures; they are soft and true and strong. Amateurs who strive for the soft effects have here two excellent studies.

No. 85, " A Mountain Road," by Reed, of California, and No. 290, " October," by Field, of Wisconsin, show where a mist or fog is admirably placed. The filmy atmosphere adds to the strength and does not mar the fine perspective of the redwoods in Mr. Reed's work and finely embodies the harvest spirit in Mr. Field's " October."

Other examples of the soft, misty picture well-worked and suited to this style are "On the Water Front," Mr. P. Chilson, and "A Japanese Mountain Village," Manley. On the contrary, Mr. Lamson's picture, "Low Water," is a good thing spoiled by a lack of definite shadow and light.

There are a number of pictures in this exhibition well adapted for showing what desirable and what undesirable effects may be produced in the handling of a good negative. Strange to say, these have not called forth particular comment, either favorable or unfavorable.

Ernest Boon sends from Italy an exquisite little picture, "A Venetian Byway." If it has a fault, that fault could have been corrected by a slight reduction of the white light on the water. An English artist, Mr. Brogden, is pleasingly represented by a small picture named "During the Dinner Hour"; This is one of the few well-reproduced pictures in the salon catalogue. A clear and significant handling of shadows is found in this same artist's picture, "In the Fish Market." Petzold, a Philadelphia photographer, and Coombs, of the San Francisco Camera Club, in No. 51, "Rewarded," and in No. 141, "Sheep at Nightfall," have given us two gum-bichromate prints of an unusual order of excellence and feeling.

Henry S. Williams, Philadelphia.

"MY SHEEP HEAR MY VOICE."

A consideration of the architectural photography to be seen at the salon brings us to a mention of the work of Loughton, of England, and of Emerson, of California. Nowhere more than here is the effect of the shadow rightly handled to be seen. The interior lightings of the cathedral pictures of these two artists are wonderful. Noteworthy handling of exterior shadows will be also noticed in the "Old Cronies" and "La Siesta," of Chapman; and of interior light and shade, in the following-named pictures: "In the Barn," W. M. Clute; "The French Flax Spinner," Emerson; "The Fish Market," Brogden, and "The Pedagogue," F. H. Day.

Excellent marine views are hung by Crowell, Street and Wilhelm. Crowell's "Yacht C," for a union of grace, action and purity of tone, is not equaled by any marine view in the exhibition. "At Anchor," by Woods, is a delightful picture which could have been greatly improved by lifting the heavy shadows on either side, the light falling so that the surface of the water appears to be convexly curved.

This salon has been termed a distinctively portrait salon, and, noting the admirable pictures in this branch of photographic art, the term seems not inappropriate. Beginning with Petzold's "Rewarded," and passing around the hall, the student of portrait photography will be delighted to find such work as "The Whistler," by Leat; Mrs. Cabot's little "Study"; Dassonville's "Portrait of Master Roberts"; a "Study of Professor Wintermute," by Powers; Miss Adams' admirable portraits, Nos. 298 and 299; a picture of Mr. Johnson, by Rea; Mr. Le Jeune, by Maurer — far the finest thing that Maurer has in the salon; Miss Brigman's excellent likeness of William C. Morrow; Lee, of Boston, two studies — "Milley" and "Billy"; Frank Eugene's Irving and Jefferson and his charming picture of Anton Seidl; Fisher's "Portrait of an Old Man." the picture already mentioned, called the "Daily News"; and finally, Miss Deven's "Lithgon."

The most perfect in form and lighting are "The Whistler" and the "Daily News"; close upon these, rich in deep and meaning shadows, are "Lithgon" and the work of Miss Adams. Lee's "Milley" and "Billy," Dolman's "Study of Poverty," and Mrs. Cabot's "Child Study," are harmonious pictures and perfect types of the characters they represent. Dr. Bruguiere has in the exhibition two pictures of the Archdeacon of Richmond; except for two marring streaks of light in the backgrounds, these are well worth study both for delicacy of work and character portrayal. The same praise may be given the portraits of a little girl by this artist.

Attention is called to the extraordinary study of hands to be found in several of these portraits, notably in "Lithgon"; in Miss Adams' portrait, No. 299; in "The Pedagogue" and in the "Lacquer Box," by F. Holland Day. This last-mentioned picture stands alone among all the pictures of the salon for its power of suggestion; and the mystery, cunning and strength of the hands that hold the box are rarely so well expressed by the photographer's art.

A last word of wonder at the manipulation of negatives by Frank Eugene. Observing the influence of Genthe and of Maurer upon the camera folk of California, and noting the remarkable methods of one so high in photographic circles as Frank Eugene, I can not hope that next year's salon will not present a startling array of etched negatives, but praises be! if such a fault but cure these Western lovers of the camera of the fog-softened prints they are now too seriously addicted to. LILY E. WHITE.

January 22, 1902.

BURKE & JAMES, No. 118 West Jackson boulevard, Chicago, announce that they are putting on the market a number of new photographic chemicals invented by Mr. Ralph Martin. These include "Microgen," a new developing agent; "Soline," a quick printing, cleanly and safe working single solution sensitizer for fabrics, papers, postal cards, etc.; "Platyn," a copperless platinum single toner (concentrated) that does the work of successive gold and platinum baths, but does it in a single operation; "Intensine," a mercuric iodide intensifier, and "The Martin Silk Solutions," a (patented) two-solution sensitizer for use on fine silks and satins (particularly for silk handkerchief work).

A PHOTOGRAPHIC RESOLVE.

Christmas and New Year's day have passed, and I have made a resolve that I shall stick to, and it's about photography, so I knew you would like to hear about it, as you are interested in anything photographic. I am going to begin, *directly,* to stock up my photo-store with my best work, fashioned into all the pleasing shapes my brain can evolve ideas of; and then I shall be prepared to send some beautiful things, all my own work, too, to those friends who I want to remember next December, on the twenty-fifth. I have already evolved a number of ideas, and I thought you might like to hear them and so make the same resolve to stick to. A whole year isn't any too long to work out this resolve; and when you think of the pleasure to be had from creating beautiful things out of your own photo-work, and making them just the perfection of beauty, you will, I know, consider it worth your effort.

L. S. Gans, Philadelphia, Pa.

'MID FOG AND ICE.

In calendars, I am going to make, first: four beautiful blue-prints of personal interest to some certain friend, mount on white cards, tie with blue ribbon and put below each print a three-months' calendar, printed in blue on white paper.

Second, four prints to represent the four seasons, printed on the make of printing-paper whose tint will best represent the subject; mount these prints on cards to harmonize; paste a three-months' calendar underneath, printed in the right color ink to match card and print, on white paper, and tie the four together with ribbon of a color that will blend well.

Third, a more elaborate calendar of twelve pictures to represent each of the twelve months, printed on paper of the right color, or upon tinted cards of the proper shade, spread with sensitol. These twelve tinted pictures will be mounted on cards of harmonizing colors; the calendar printed in *white ink* *upon each card;* and the whole tied together with a white ribbon.

Fourth, a calendar, easel fashion, with one print, calendar pad and a small thermometer.

Then I shall make a match scratcher of sandpaper and a print pasted on a card one above the other. The print will be cut panel-shape or a long narrow oval, and the sandpaper accordingly.

I shall mount *small* pictures on cards and string up in rows of four, five and six, by means of gilt or silver cord or narrow ribbon.

I shall make passe-partout pictures of all sizes, using the glass of old, poor negatives for some. The pictures will be in all the different tints possible, with a narrow white edge around each print, mounted on cards of a harmonizing shade and bound with black, white, gilt, silver, gray, red or brown binding. One can create any number of lovely effects; namely, a blue-print with a narrow white edge, mounted upon a blue blotter, and the whole bound with white pebbled binding. Some small pictures, covered with glass and bound, I shall string up in rows of three and four.

I shall tie together blotters, having the outside one of a blue or white color, with a blue-print pasted thereon. Ribbon — blue or white.

Velox or Rotograph post-cards I shall use to send to a few friends, with a Christmas greeting written thereon.

Then I shall tackle blue-print cloth and make sofa-pillows and table-covers. I shall make me a printing-frame large enough to print a whole square, 20 by 20, of the cloth, and I shall print it to obtain the effect of a checker-board — that is, a square of picture and then of white cloth, about three or four inches in size. Such effect can be obtained with small plates and a cardboard mat with cut-out squares after each solid square.

A blue-print on cloth can be used as the top for pin-cushion, or for the top of a box covered elsewhere with white or blue linen, making a pretty box for ties, handkerchiefs, etc.

I shall buy a whole chamois skin of a green shade, and with part of it cover a box that has a picture via sensitol printed upon green tinted silk. The rest of the chamois I shall use for covers of different-sized albums. It will be cut an inch over on the sides and will be made stiff by means of cardboard pasted inside that is covered with white or yellow silk. A ribbon of white, yellow or green, passed through holes at the back, will fasten the whole in place. A dozen or two of cards and prints will be placed in each album. Cards and prints will harmonize, but all may differ in tint, in order to express the subject of the picture properly. The title of each print in white ink will be placed below the picture upon the card. Upon the outside of the cover I shall have printed in gold such titles as, "Memories," "Sea Dreams," etc., and the pictures inside will tell the story at which the title hints.

I shall be sure to save a piece of leather for a glove case and have a panel picture upon the outside of green silk and sensitol, with a pretty view.

Besides all this, I shall make a bookmark of a pretty panel picture upon blue cloth and mounted on white satin ribbon, fringed at the ends. Then I shall print on a square of blue cloth, in my big frame, a few small pictures, and fringe or hemstitch the sides, thus obtaining a lovely centerpiece for a table.

Now I have told you a lot of things that I shall do, but I know a number of things that you can do along with all these that I have resolved to do. You might cut prints into squares, panels, ovals, rounds, diamonds, and paste one on a card having a ready-made calendar pasted below; or you might cut openings of any of the above-mentioned shapes in the upper part of a card, paste a print back of it and cover all with cardboard at the back. Paste a calendar below the print. You might buy glass paper-weights and paste a print under them. You might make hatbands with blue cloth or with sensitol and silk ribbon. Be sure and print a picture on each. You might begin an interesting collection of small pictures of an inch and a quarter square, and when you have collected enough, paste them upon a piece of white bristol-board having an equal number of squares between each print, thus making a checker-board. Cover it with glass, put a piece of thin wood at the back and frame with a narrow frame; only be sure to have half the pictures face one way and the other half the opposite way, and also have a border of white board, a good inch in width, all around the pictures and square. You could even have your checker-board for the top-piece of a snap-table if you have the necessary article to do it with — money.

Now I have told what *I shall* do and what you *can* do, but what *are* you going to do, eh?

H. Florence Oliver.

THE DEVELOPER AND ITS CONSTITUENTS.*

BY A. K. BOURSAULT.

CHAPTER II.

ON WATER.

Water, considered from a photographic standpoint, and more particularly as part of a developing compound, acts mainly as a vehicle and dissolving agent for the other chemicals. It is also water, as we shall see later on, that furnishes the hydrogen required for the development of the image. The ideal water to use for photographic purposes is distilled water, carefully cooled in a closed vessel. While it is necessary to use it for experimental and laboratory work, it can happily be dispensed with in practical routine, and good river, tap, well or rain water used instead, if a few precautions are taken to free it from all obnoxious matter.

First of all, it must be remembered that in no two parts of the country is the water alike; nay, in the same district, in the same town, two samples of water may be widely different. Not even rain water, which we see often advocated in photographic papers, can be considered pure enough to use for the preparation of easily oxidizable developers like Pyro; the less so when the solution has to be kept any length of time.

By the time the water that has been generated in the clouds comes down to our tank it has gathered oxygen, nitrogen, carbonic acid, dust particles from the air and impurities of all kinds in running over roofs and gutters. If it be river water, it will contain, besides animal and vegetable matters, calcium salt, common salt, magnesium salts, nitrates, sulphate of lime, traces of iron and other metals, etc., the further enumeration of which would be devoid of interest. Of all these impurities, the most obnoxious are the lime and calcium salts, together with the gases, and more especially the oxygen that the water always contains. Various means have been devised to rid it from them, but they are, however, in most cases far too complex to be considered for practical use.*

Further, they are not necessary. The one great remedy that will free the photographer from all his troubles is boiling the water before use. To those that have some knowledge of chemistry, the wonderful effect of this simple treatment will at once be apparent. 1. The albumen of all animal matters and terrous and vegetable particles in suspension will settle down to the bottom. 2. The lime and magnesium salts rendering the water "hard," will become insoluble and be precipitated, the carbonic anhydride to which they owe their solubility being liberated by the boiling process. On a large scale the carbonate of lime can also be removed by adding lime to water and then allowing the precipitate of carbonate of lime to settle down (Chapman Jones). The hardness that may be left after boiling, and which is called "permanent hardness," is due to the presence of sulphate of lime and is of no moment except sometimes when the water is used for dissolving silver salts. We shall refer to this later on.

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*Copyright, 1902, by F. Dundas Todd.

* Mr. F. Dundas Todd, in his Reference Book of Practical Photography, Part II, page 112, gives a description of an excellent apparatus for purifying water for photographic purposes, to which we refer the reader.

For mixing developers, its presence can be neglected. 3. All the gases kept in solution, of which by far the most obnoxious is oxygen, will be driven off by the boiling.

The final result will be a soft water (or nearly so) answering all requirements, and perfectly adapted to photographic purposes.

Certain precautions, however, have to be taken, the non-observance of which renders the boiling process nearly useless.

1. It is better, though not necessary, to filter the water before boiling, when river water is used, and there is a large quantity of terrous, animal and vegetable matter present; or when the water has not been allowed to settle sufficiently.

2. The water must not only be brought to a boil, but must be *kept boiling for at least ten to fifteen minutes,* so as to rid it thoroughly of the oxygen and other gases.

3. It must be cooled in a quiescent state and in a closed vessel. If left in contact with the air, it will take up oxygen again and often be unfit for use.

4. It must be stored only in vessels of glass, earthenware not enameled with lead compounds, or tin (not tinned iron), as soft water has a great tendency to form salts in the presence of most metals generally in use for that purpose, particularly lead or iron.

If these few points be carefully observed, the photographer need not apprehend any trouble with his developing solutions, and will be well repaid for his pains by the excellent quality and uniformity of his work. Particularly will he appreciate this in the positive processes where often yellow stains, streaks and imperfections of all kinds are due simply to the use of impure water, either in the developing, toning or fixing solution.

Hereafter, whenever water will be mentioned for photographic purposes, making up formulas, etc., the results obtained and statements made by the writer will always imply the use of water filtered and kept boiling during at least fifteen minutes and cooled as has been described.

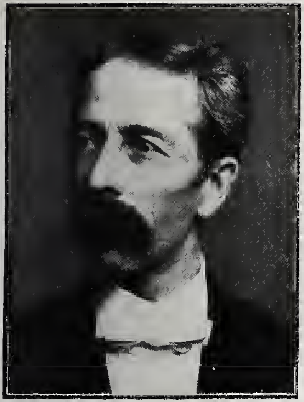
Since the appearance of the previous article on sodium sulphite, Mr. G. Gennert has sent the writer a sample of a new brand of anhydrous sodium sulphite, C. P., which this firm is going to put on the market. The result of tests with phenol phthalein red is as follows:

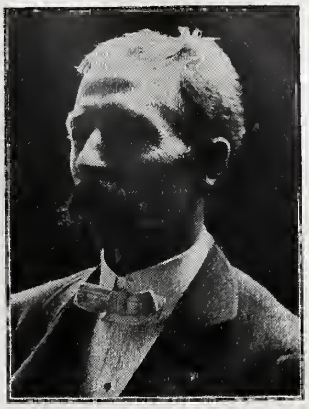
G. Gennert's sodium sulphite anhydrous C. P., 8.40.

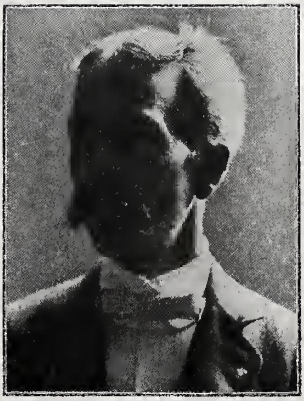
"STUDIES IN LIGHTING."

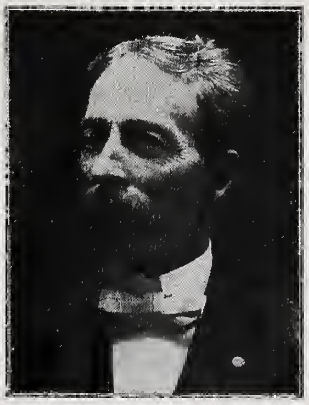
The Inland Printer, of Chicago, is at present running a very practical and interesting series of papers on illustrating, by Mr. Frank Holme. In the fourth of the series, which appeared in the February issue, he lays very strong emphasis on the question of lighting, and to illustrate his point gives reproductions of nine photographs from the same subject in which the pose is, as far as possible, always the same, but the direction of light is in every instance different. Regarding them he says: "These pictures show how much a single photograph will miss in the representation of form. In every one of them some feature is printed out clearly which has been imperfectly revealed in the others." There is a world of instruction in a study of such a series as this, and it emphasizes the necessity for each photographer to determine clearly in his own mind what features in the face of his subject he ought to emphasize and which he ought to subdue. Once that has been determined, the rest of the work is easy.

The Reading (Pa.) Lantern Club begs to announce that it will hold its first annual loan exhibition of photographs at its rooms, 444½ Penn street, for the period of May 12 to 24, and asks the kind support of the other photographic societies. The club is a member of the American Lantern Slide Interchange and is making every effort to popularize photography in its section of the State.









PHOTOISMS.

Mounting will often make or mar a picture.

After photographing the baby take a sedative.

There is always one idiot in a group — humor it.

Never take a snap-shot when you can give a time exposure.

Careful printing won't entirely atone for careless developing.

Don't show your first picture to the "candid friend" — it will prove irritating.

If you make an error in focusing, tell your friends you're an impressionist.

Some enthusiastic amateurs would seem to prefer hell with a camera to heaven without one.

The real photographer is born, not made. But don't get discouraged; you may become a creditable imitation.

"Beauty is only skin deep," but it is best to use a ray-screen when you photograph the girl with freckles.

When a man asks for criticism he wants praise. Remember that when your friend shows you his latest picture.

Don't think because you have the latest thing in cameras and have exposed a few dozen plates, that you're a connoisseur on art.

When you touch off a half-dollar's worth of flash-powder and then find you've forgotten to remove the lens-cap — remember your New Year's resolution.

A. J. CRAMP.

THE long-felt want for a remover of the stains with which the users of pyrogallic acid are so familiar has at last been overcome by the old established photo supply house of G. Gennert, 24 and 26 East Thirteenth street, New York, which offers a sample package of pyro bleach at 25 cents — 5 cents additional if mailed.

THE Photographic Society of German Amateurs, 62 East Fourth street, New York, announces that it will give an exhibition of photographic prints from April 24 to 27, 1902. All entries must be received not later than April 22. Particulars from the secretary.

EDITORIAL TABLE.

WE are indebted to the editor of the *Photo-American* for the very handsomely bound copy of Volume XII, being that for the year 1901. The price is $2.

A very interesting pamphlet that has reached us in the last week or two is entitled "The 20th Century City," which is a record of the proceedings of the annual convention, 1901, of the American League for Civic Improvement. While it is devoted, to a large extent, to the practical side of city life, its chief interest seems to be devoted to the embellishment of the streets and yards by means of flowers, shrubs and trees. The booklet makes very interesting reading, and the illustrations show very decisively what can be done in even very unpromising situations. In one of the illustrations, which is a group of the members, we are very pleased to notice two very familiar faces, namely, Mr. and Mrs. Zimmerman, of St. Paul. Photographers at the Northwestern convention who had the pleasure of taking part in the lawn party given by Mr. Zimmerman at his home last September and remember his charming lawn, will understand how much he is interested in this kind of work. The booklet is issued by the *Home Florist*, Springfield, Ohio.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

Negative by Richard Hines, Jr., Mobile, Ala.

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. APRIL, 1902. No. 4.

VISUALIZING.

Very many of my readers have doubtless read some of Ian McLaren's charming little sketches of Scottish life and character, and many have doubtless supposed that the rural parts of Scotland were little Arcadias, where all was kindness, sweetness and charity. It is an ideal Scotland he portrays, but unfortunately, it is very, very far from the truth. It is a possible Scotland, but not the real by any means. Any one who desires the antidote to " Beside the Bonnie Brier Bush " can easily attain it by reading " The House with Green Shutters," by the very latest Scotch author, in which they will find a description exaggerated undoubtedly for dramatic reasons, of the Scotland I knew in youthful days. It was my fortune as a boy and young man to wander considerably over my native land and to live in communities of various sizes, ranging from a total population of fifty-five up to the capital city itself, and so I possess some little conception of the character of the rural people. And I must frankly say that in the smaller communities the predominant notes were not long suffering, kindness and charity, but rather envy, self-seeking and all uncharitableness, made evident by more or less venom, spleen and sarcasm.

In " The House with Green Shutters " there is not one lovable character in the whole book, but one and all exhibit in a very marked degree the very unpleasant phase that I have just enumerated. The principal figure is a perfect pen-picture of a man in whose house I boarded for two years, and every scene in which he appears had his counterpart in the career of the man I knew, although the localities in which the real and imaginary individuals played their little parts are at least two hundred miles asunder. The author is a psychologist of the first rank, and he shows how, in a certain environment, it was possible for a strong-willed, tenacious, inarticulate, physically strong man to attain financial and mental domination over an unwilling community, even although he was detested on every hand, and how, when the environment changed to a condition where education and broader grasp of principles were necessary, the individual lost his footing and ran down hill at a terrific pace.

But my personal interest is not with the principal character in the book, but with that of his son, who, unfortunately for himself, was the exact antipodes of his father. While not possessed of very much brain-power, he was one of those fortunate or unfortunate individuals — as environment happens to be — who are sensitive both mentally and physically. I know the temperament well, having very frequently come in contact with it during my career as a teacher in school, and up to the present moment I have been unable to decide whether such individuals are the most fortunate or unfortunate of human beings. They possess in themselves a great power of enjoyment without drawing upon others. In other words, they are self-contained, and even if they were dropped out in the middle of the open prairie one hundred miles from nowhere they would be perfectly happy because, within five minutes, they would discover within a yard of where they stood a perfect mine of pleasure in the flowers, birds, trees, the clouds, the sky, the color effects that nature provides with so lavish a hand. Even in the dark they are perfectly happy, because through some wonderful working of the mental machinery they can project in front of the mental eye past scenes that are a thousand miles away, or they can conjure up combinations of natural objects that are possible but seldom or never occur in such wondrous perfection; but, unfortunately, this wonderful visualizing power is accompanied by a sensitiveness to both physical and mental pain that must at times be simply excruciating in its agony, and their nerves must again and again be so wrung with untoward surroundings that the whole machine must go to pieces sooner or later, or the mental balance be overthrown, developing abnormal tendencies which spring from the very same source as do the more lovable qualities.

No more unfit parent than the principal character in this book could have been selected to guide the destiny of a sensitive child through infancy, youth and early manhood. Acting according to his best judgment, he thwarted every one of the finer tendencies of the boy in order to harden him and fit him for the same career in the world that he himself had run; but the young tree would not grow as he bent it, and through chapter after chapter we follow the utter demoralization of the child until we reach the terrible conclusion, which every thinking man foresaw was absolutely inevitable, that the punishment of death meted out to the father by the son was a fitting punishment for his offenses. In plain English, nature is merciless to a fool. A fool is one who does not know what nature is and does, and what his fellow men think and will.

The moral of the story is so self-evident that the author does not trouble to put it into words, but at the risk of insulting the intelligence of my readers, I would like to point out to them, especially to those who are parents, the utter futility of trying to force the mind of a child along channels that are repugnant to it. Every parent knows that no two children in a family are alike. One may be physically strong and fond of athletics, another may find his greatest pleasure in the woods among the birds' nests and flowers, while a third may be addicted to dreaming and thinking over philosophic problems. To attempt to force the athletic to love the flowers, or to compel the naturalist to take part in rough sports, or to endeavor to squelch the workings of the philosophic mind by bluntly saying that he has no business to think about such subjects, is not only unfair to the individual, but is positively criminal, for, sooner or later, it will either result in the complete suppression of the personality of the child, making it an insipid piece of human machinery, or divert the natural energy into similar but baneful channels. My greatest sympathy goes out toward the visualizer, the sensitive plant who loves the birds, the flowers, the animals, but who not infrequently dreads the cold and rough buffeting with his fellows. What he needs is encouragement — not coddling — so that he may venture little by little until he develops that confidence which can only come with difficulties faced and overcome. And, in connection with this, I may state that I know of no better allurement than photography, which will get into his mind an overmastering impulse that will tempt him to face natural obstacles on the prairie and in the woods in his eager quest for fitting subjects for his camera. Every difficulty surmounted is but an encouragement to face one a little greater, so that the moral influence of photography must not be lost sight of when parents are planning how best to utilize the energy of their children and how to develop their mental, moral and physical characteristics.

F. Dundas Todd.

PICTORIAL COMPETITION No. 46.

The lantern-slide competition in the past has never been a very popular one, and while the present is a considerable advance upon that of previous years, the number of competitors is very much smaller than ought to be the case. After testing the slides in the lantern, the judges made the following awards:

First prize —E. Williams, 1300 Michigan avenue, Chicago. Subject, "On Pine River."

Second prize — Fred Haas, Reading, Pennsylvania. Subject, "The Milk Boy."

Third prize — R. E. Berger, Reading, Pennsylvania. Subject, "The Swan Pond."

FUTURE COMPETITIONS.

Competition No. 48 — General competition, any subject. Closes April 30.

Competition No. 49 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 50 — Domestic animals. Closes June 30.

Competition No. 51 — Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 52 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 53. — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying, a letter or post card should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

C. Yarnell Abbott, Philadelphia.

THE ROSE.

LOS ANGELES CAMERA CLUB SALON.

This club announces that it will hold a salon in its rooms from May 1 to May 10. For particulars of prizes, etc., apply to the secretary, 321 South Hill street, Los Angeles, California.

SUBSCRIPTION COMPETITION.

This competition closed on the 28th day of February, and resulted in the addition of 729 new names to our subscription list. According to our books, the prizes have been awarded as follows:

	New Subscribers.
First, W. A. Semple, Utica, N. Y.	61
Second, C. N. Jenkins, Cedar Rapids, Iowa	51
Third, W. H. Lyman, Buffalo, N. Y.	27
Fourth, J. F. Ryder, Cleveland, Ohio.....	24
Fifth, W. H. Monroe, Leominster, Mass.	23
Sixth, J. L. Tincher, Danville, Ill........	19
Seventh, George H. Hazlitt, Chicago.....	14
Eighth, A. M. Kroff, San Diego, Cal.....	9
Ninth, F. Sidney Nisbett, McKeesport, Pa.	9

Before publishing the above figures, we have written to each of these gentlemen to learn whether or not our figures were in accord with theirs, and have also written to a number of the runners up to see whether or not they could claim higher totals than our books show, and so, to the best of our knowledge and belief, the above is the proper order in which the competitors should be placed. Before mailing the checks to these gentlemen, we will allow a period of fourteen days to elapse after the publication of this issue in order that any other competitor who feels he has not been given proper credit may lodge his claim. No consideration will be given to claims made after that date.

F. DUNDAS TODD.

ONCE more the Rotograph people have had to increase their floor space. The increase in their bromide paper and picture business has necessitated the removal of the cutting and packing rooms, and these departments are now located at 122-124 Fifth avenue, where an additional 4,500 square feet of space has been taken. The main office will be at 101 Fifth avenue, as before. This is an excellent record for a firm that has been here less than one and one-half years.

They have just put out a new line of papers, which they call "Lenta." This is a slow-developing or gaslight paper, and is made in five grades, glossy, matt and a cream toned paper, which last should find great favor with amateurs.

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER IV.

THE USE OF LINE, SPACE AND ACCESSORIES IN THE COMPOSITION OF ONE OR MORE FULL-LENGTH FIGURES.

Before we get into too technical a discussion, I should like to speak about the more subtle qualities of a portrait, pure and simple. First of all, the best quality of any portrait is natural, unaffected ease, graceful repose. It is the subtle line that charms in the successful composition of a portrait. Don't think it is necessary to tie your sitter into a bow-knot to get the compound curve I have been harping about. I am a little afraid that the examples that I gave you in my last paper might be a little misleading. These figures of Michael Angelo are a little flamboyant, it is true, yet they have a sense of repose and dignity; but I selected them largely because they so well illustrated the principle I wish to make clear. It is doubtful if anything so flamboyant in pose would be expedient in a portrait, pure and simple. Nevertheless, Mr. J. W. Alexander has painted several successful portraits in which the pose was quite as extravagant. In general, the best pose does not look like a pose. It is this subtle difference that distinguishes the great actor, whose consummate art seems the most natural thing in the world, notwithstanding every movement had been studied beforehand, from the cheap actor, who makes it quite apparent that he is acting every minute of the time.

I once said to Sir Henry Irving that the best actors seemed to act the least. "That's it," he said, "they cover it up, hide it, hide it." So in the successful portrait, one first of all must have this sort of dramatic quality in it. Though you pose it, it must not look the part, but seem the most natural thing in the world.

So much for a general requirement; second, it must be so proportioned to the space it occupies that one's first im-

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* Copyright, 1902, by F. Dundas Todd.

pression is correct. If the person is large or small, one should get this impression instantly; third, it should be so placed within the picture boundary that we get the most decorative variety of spaces; and, last, the accessories should be so placed, as I have said before, to fill a space that needs filling, and not one that does not tell a story or carry out and beautify a line.

We will now take up the qualities of line, space and accessories, and see how they can be used in the composition of a full-length figure. In my last paper I devoted nearly the entire space to the human figure and what it could teach one about line and space variation. In regard to accessories, I said that when they were used they should be so placed as to accent and beautify the natural lines of the figure. In this paper we shall take this a little further and discuss the line and space in connection with accessories. I know of no better way to make these principles clear than by going over in a careful, critical way this single figure arrangement by J. W. Alexander. It is rather eccentric, if you will, but a very clever and decorative bit of composition, and has the advantage of being perfectly practical in photography. In regard to spacing, notice how the interest is kept in the upper part of the picture. The spaces are smaller and of accented interest that give a pleasant contrast with the simple restfulness of the lower part, filled only with the long flowing lines of the skirt.

We notice at once that the figure is pushed to one side, even at the sacrifice of the back of the skirt. However, this is quite justifiable, as the beautiful line of the figure is in no way impaired, and in making the picture narrower we have a panel shape which gives in this case a more decorative effect. If one took the skirt in on the back, one would have to add more in front to keep the head from appearing unbalanced or too much to one side. As it is, the spaces are all varied in a most pleasing and decorative way. There are three accessories in this arrangement, the window, vase and wall draping, and we shall see how all three of them, though small things, have been used in a clever way to vary the spaces and carry out the line. The window puts a pleasant break in the otherwise monotonous background and forms a note of contrast with the dark hair. The small vase coming against the head as it does, carries the line up and into the picture, gives the picture a little depth and breaks up the bare rectangular space of the window. Notice these very small but important things. The vase does not go clear up to the top of the picture, while the window does. Note that following around the big sweep of the hair, the curve is carried on and up by the lines of these two accessories so that we have a beautiful compound curve that starts at the top of the window, sweeps downward and a little out at first, then is carried over by

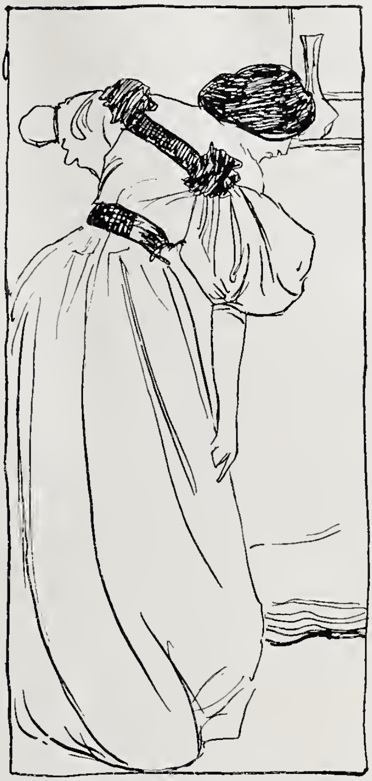


Fig. 10.

This picture of John W. Alexander's is a beautiful piece of tone, but I have purposely traced it in this way, as its virtue of line and space seem more apparent.

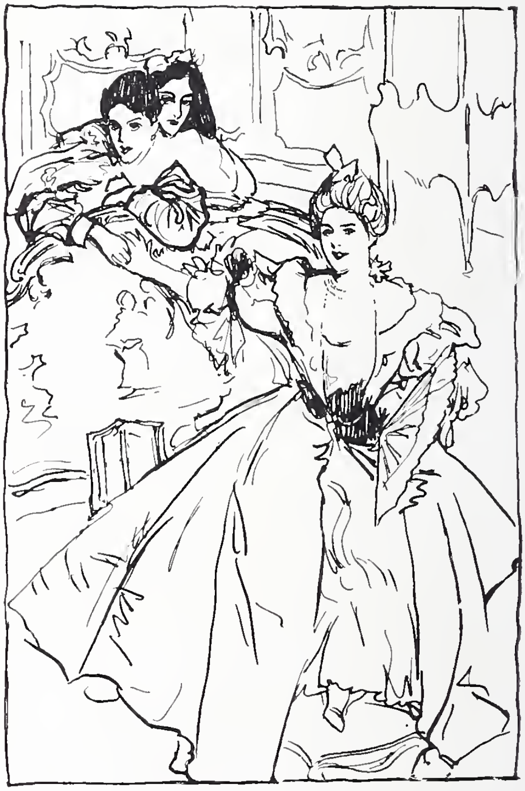
the line of the hair and flows into the natural curve of the body. It is quite plain, I think, that these accessories would be valueless in any other part of the picture, but placed as they are they pick up the beautiful lines of the figure and carry them on and up, giving an additional richness to the curve. They balance the long curved lines of the skirt at the bottom of the picture just as the ends of an inverted S would balance each other. The stripes at the bottom of the wall drapery are used for two reasons; first, they give us a greater variety in the spacing of the background; and second, they are just enough and not too much to carry the interest down to the bottom of the picture. I wish to bear it in upon you that it is these little things that are the important ones.

The figure, in a natural and graceful pose, will compose itself, and it is your business to see that the accessories you place around it are right.

We will now look at the subject of placing more than one figure in an arrangement, and see how the same principles hold good.

I publish with this paper a rough sketch of Sargent's portrait of Mrs. Carl Meyer and her two children. It seems to me that this arrangement of three figures would be very hard to beat. First, we will consider its general spacing, and it will be noticed that the heads are quite extreme in their space variation, as the children's heads are so close together they overlap, while the mother's head is over two diameters away. One could move the little girl's head a little to the right without spoiling the space variation of the picture, but when we consider the line, this head occurs just in the right place.

The placing of the china cabinet and the paneling on the wall and background in the upper right-hand corner is just enough and not too much to fill this otherwise large and empty space and at the same time does not detract from the heads, which, of course, are the important points of interest. The spacing of this portrait group is thoroughly good and interesting, but its great charm is in the exquisite line that leads the eye from the foreground back to the little girl's head in the middle distance. This beautiful compound curve is so self-evident that it is scarcely necessary to speak of it, but I can not refrain from mentioning the beautiful rhythm and the artful way the painter established it between the three figures. The real reason why Sargent placed the little girl's head so near the boy's was on account of the line. This head, with its accent of dark hair and ribbon, coming where it does, carries the eye up a little and into the picture, making the curve far richer. If these heads had been separated by even a small space this would not have been so — the line



would have lost some of its charm, though the spacing might have been equally interesting. And if the little girl's head had been moved to be equally distant between the mother and the boy, the composition would have been utterly ruined. The open book thrown upon the sofa beside the mother had a twofold reason. First of all, it has a very pleasant suggestion of culture and a refined home, fulfilling what I have termed the story-telling feature of an accessory. But far more important than this, it breaks the lower transverse line of the sofa, throws it back and gives all the chance in the world to the long, graceful lines of the dress. The fan in the mother's hand completes the beautiful curve over the shoulders and up the extended arm. The eye is drawn out and upward to the boy and in and upward to the girl.

It seems to me this arrangement is faultless and something that can be easily done in photography.

We learn from Mr. Edward W. Newcomb, who has made such a pronounced success with his Nonhalation Plate Backing and his Ideal Spotting Medium, that he has greatly enlarged his laboratory and added several new requisites to his list, among which are his Persulphate Reducer in hermetically sealed glass tubes, Blue Print Powders in dainty tubes and Triumph Combined Toning and Fixing Salts, which contain plenty of gold. His illustrated booklet is to be had free on application to 140 Bible House, New York city.

Charles E. Dewitz, Chicago.

THE OLD HOME ACROSS THE SEA.

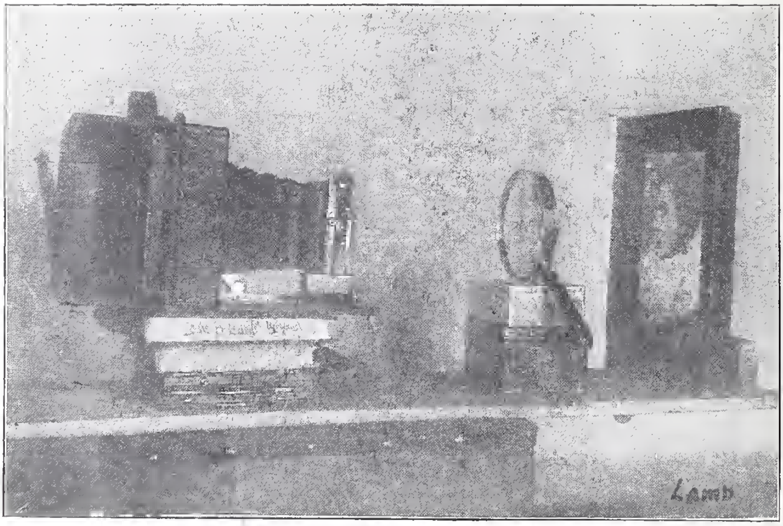
COPYING WITH SHORT-FOCUS CAMERAS.

Amateurs and "button pushers" generally are forced to get along with little apparatus and that of the least expensive kind. But they are ambitious to do things which call for more or less special and complicated arrangements — long-focus lenses, long-extension bellows, extra-wide-angle objectives, or any one of a score of things that might be catalogued.

Copying in full size or with little reduction is one of the earliest side lines essayed by the camera tyro, and his troubles are manifold. The ordinary 4 by 5 camera has a draw of bellows not exceeding nine inches and a lens of 6½-inch focus. With such an outfit an object to be photographed must be placed at least four feet from the lens and its image on the plate obviously must be diminutive, especially if the subject be a cabinet photograph. To obtain a copy approximating actual size a bellows extension of about twenty inches is necessary; hence the novice is balked at the outset.

I met this trouble before the day of "copying lens" attachments to small cameras and the method which served me then is good enough to suit me even now, though my "kit" has come to include several long-focus boxes and lenses. For the sake of the many "button pushers" I send this description and photograph of my "copying outfit." It calls for nothing which is not usually found in any house where there are pictures and a camera.

My camera is an ordinary 4 by 5 folding box with a lens of six inches focus. Having a picture which I desire to copy in about full size I set it up vertically about eighteen inches in front of my camera. Between the picture and the camera lens I place an ordinary hand or reading glass 3½ inches in diameter. By a little care this glass forms a magnified image of the picture. I focus my camera on this enlarged image, moving the box, or the reading glass, or both until I find on the ground glass just what I wish to reproduce.

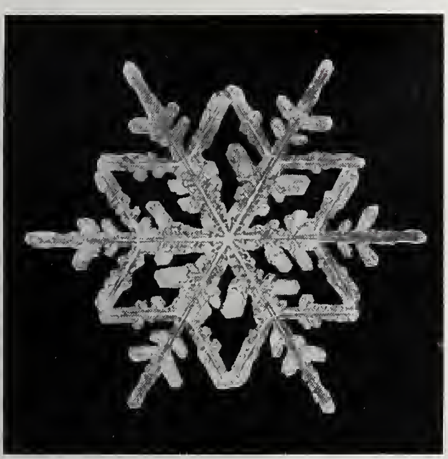


With one Welsbach burner four feet above my camera, and using stop 8 I find one minute ample exposure for copying with this simple apparatus. The results are all that one could ask even if the outlay had been much greater. The illustration amply explains the arrangement. It is well worth a trial.

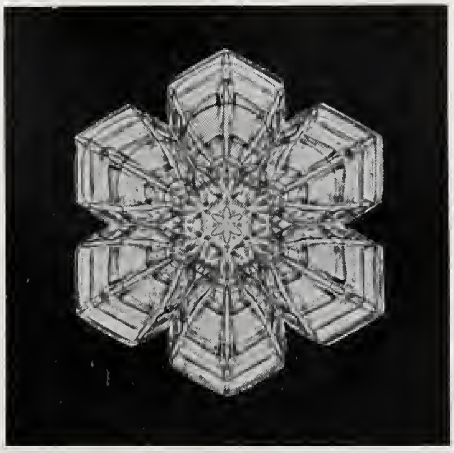
Louis A. Lamb.

HOW TO PHOTOGRAPH SNOW CRYSTALS.

A most delightful branch of photographic work and one well within the sphere of the amateur is that of securing microscopic photographs of snow crystals. This work requires no very expensive or complicated apparatus; any ordinary photo-microscope apparatus, consisting of microscope and camera, such as are furnished by almost any dealer in photographic goods, will serve admirably; indeed, one may arrange a home-made apparatus that may serve nearly as well. Directions as to how to arrange such (apparatus) can be found in almost any handbook of photography and need not be given here. For this work, and indeed for any other photo-microscopic work, it is necessary to line the tube of the microscope with thin black paper to guard against possible reflection. An extra ground-glass frame, containing a clear glass plate in place of the ordinary ground glass should be provided. This is used for final focusing.



No. 542½.



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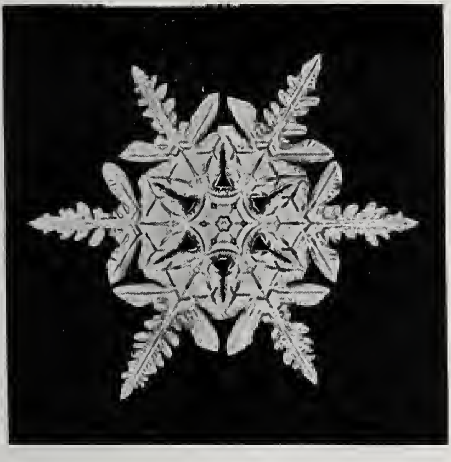

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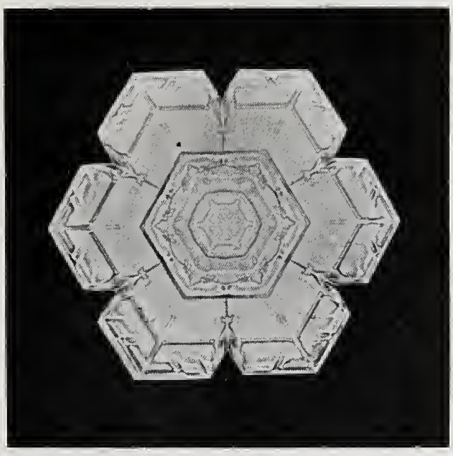


No. 562.

Other necessary accessories are a clean broom splint and a stiff feather, and a thick black card to slip over end of microscope objective while drawing and inserting plate-holder slides. An arrangement for retaining this card over the end of the microscope objective is necessary and can be easily contrived. The microscope objective alone (without the eyepiece) is used in this work. If but one is used it should be of ¾ inch and of short axis. It is better, when possible, to use two — a 1-inch and a ½-inch — as then both large and small snow crystals can be photographed. Much depends upon the excellence of the microscope objective.

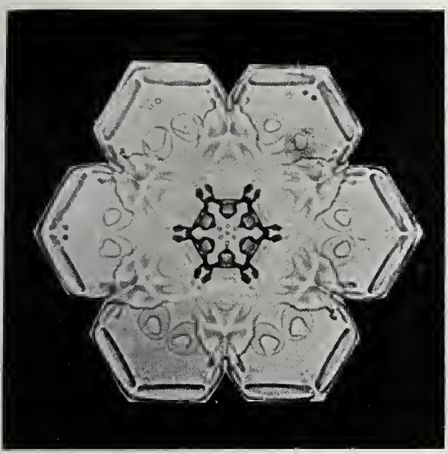
Apparatus having been arranged, a suitable room must be found to contain it. It is best, if possible, to keep this room always as cold as the outside air temperature; it should contain but one unscreened window. The apparatus should be placed so that the micro-objective points out of this window, as the light entering therein, ordinary uncondensed daylight, serves best as a source of illumination. This room is never darkened. All the work of arranging and focusing the object, exposing the plate, etc., is done in ordinary daylight. A very small aperture (stop) must be used in sub-stage, by which to admit light for illumination — one-twelfth to one-fourteenth of an inch aperture is best. A larger aperture, admitting a flood of light, is fatal in this work; it drowns out delicate shading and impairs contrast.

The snow crystals should be allowed to fall directly from the sky upon a black board or card held to receive them. Continual examinations of individual forms should be made by the unassisted eye as they alight, and collections of undesirable forms should be often brushed from the board by a wing or brush broom. As soon as one or more presumably perfect and beautiful forms alight, the board should at once be removed indoors, and these removed and placed upon a clean unscratched glass slide. The point of a broom splint pressed very gently on or over the edge of the crystals until they adhere to it serves admirably for this purpose. They should then be pressed down flat upon it with the edge of a feather and placed under the observation of microscope for examination, or if not provided with the latter, placed directly upon the stage of the photographic microscope. If sufficiently symmetrical and beautiful it should then be centered on the ground glass, and then accurately focused upon the clear glass plate. A small pocket microscope or an ordinary focusing microscope should be used for this final focusing, and it is usually best to select some delicate rod or line near the center of crystal to focus upon. All this latter part of the work — examination, centering, focusing, etc.— should be done as expeditiously as possible, and all glass slides, cards, splints, etc., handled only with thickly gloved hands and the greatest care taken not to breathe directly upon the glass slides or crystals at any time. Indeed, one must hold his breath while examination is being made, and expell it in a direction away from the crystal under examination. This is important.

As soon as accurate focusing is accomplished, place plate-holder containing a 3¼ by 4¼ or approximate size rapid dry plate in place and give an exposure of from 15 to 75 seconds, according to degrees of cloudiness, time of day and extension of bellows of camera. Bear in mind that length of exposure rapidly increases as bellows is extended and vice versa. I prefer Carbutt's "Eclipse" plates for this work and his "A" plates for the lantern slide positives.

As the more beautiful and perfect snow crystals are relatively rare and usually can be found only on certain favorable occasions and must usually be sought for among a much greater number of imperfect or broken crystals, no article giving directions about how to photograph snow crystals would be at all helpful did it not contain advice regarding how and when to find perfect snow forms. Indeed, these two factors will likely form the chief difficulties of the beginner.

As it is now clearly established that the great majority of the more beautiful forms occur in the snowfall of the western and southwestern portions of our



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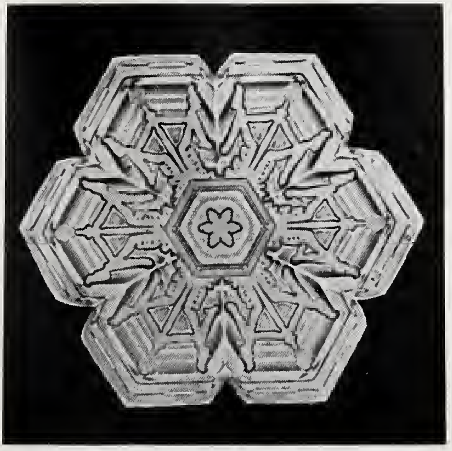

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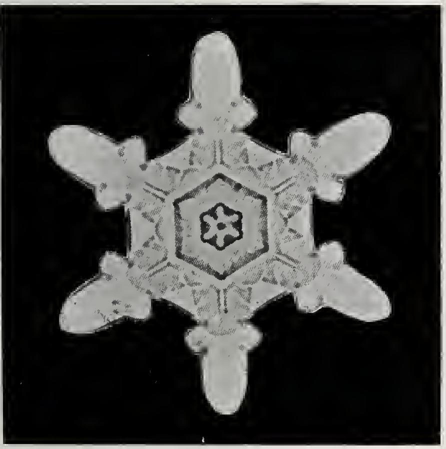

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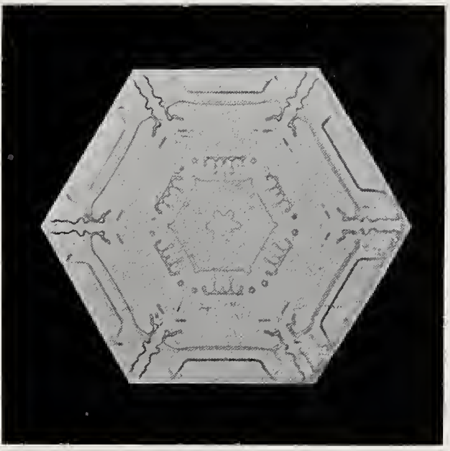

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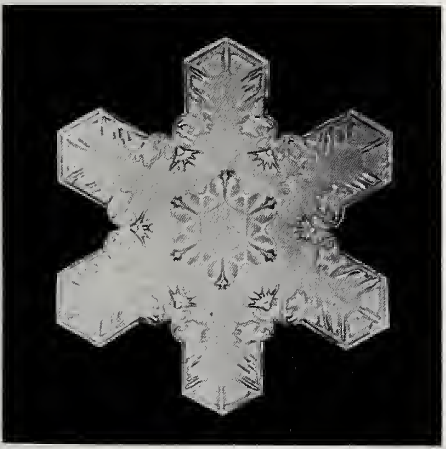

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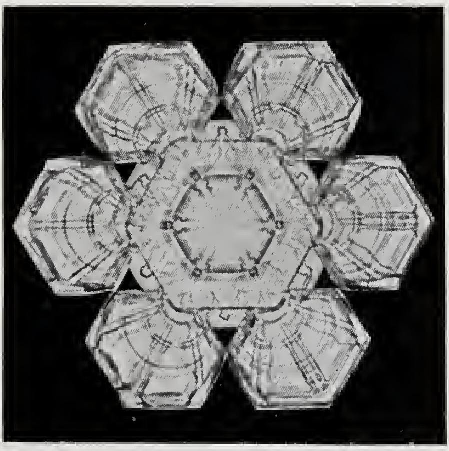

No. 865.

great widespread storms and blizzards, it is at such times that we should look most frequently for such. Usually at such times the (lower) surface wind is westerly or northerly and the crystals fall singly, and are not bunched together into large flakes. In general, one should seek among the medium to small sized crystals for examples to photograph, as those are, as a rule, likely to be more perfect in form. On very rare occasions this care in selection need not be exercised, as nearly all are equally perfect. In selecting specimens, the naked eye must be trained to detect imperfections in outline and symmetry as they lie on the black board so that time be not wasted in examining such under the microscope. One will soon learn to perceive perfect symmetry.

Certain types are to be preferred in making selections to photograph. Perhaps most observers will prefer the branching frail crystals, those beautiful in outline only, similar to No. 542½. If so, select such as possess small solid beautifully engraved nuclei similar to No. 790. This latter is the ideal type, a beautifully engraved gem set in filaments of silver, though more solid forms similar to Nos. 10, 562, 388, 847, 190 and 464 are nearly as beautiful and much more interesting.

To the inexperienced, many seeming discouragements will be met and must be overcome or patiently borne. One of these discouragements is the formation of granular deposit upon the perfect forms and spoiling them. This consists of aggregation of granular material appearing as minute detached frozen drops, or as thicker masses of such frozen upon the faces of the crystals. Sometimes this covers the crystals for a whole day or more at a time, but more frequently it appears, off and on, for shorter periods only.

After one becomes familiar with the methods employed so that no anxiety results thereby, this branch of nature photography becomes most delightful. The eagerness of the search for new forms, the excitement of the finding of a rarely beautiful form, the rare delight of viewing for the first time its exquisite lineaments under the microscope, the concern exercised while focusing and exposing the plate, to do it properly and well, and then the keen joy of anticipation as the darkroom is sought, to develop and bring out in the magic chemical baths these exquisite images of Nature's handiwork, go to form an experience so rarely delightful, so novel, that once undergone it is never forgotten. Our joy in them is trebled by the knowledge that when we emerge from the darkroom with these beautiful images, perhaps never fashioned just that way before, they are permanent, perpetuated for all time for our own delight and the delight of others.

What makes this study peculiarly fascinating is the element of novelty that it always possesses. It does not matter how many observers enter this line of work, new and unique snow designs are sure to be found by each, for all time, for so vast is the number of individual snow forms that we may never hope to photograph but an insignificant fraction of the different patterns, and no one has yet or ever will be likely to find and perpetuate the most beautiful forms. In closing it seems hardly necessary to state that this branch of photographic work is capable of furnishing rare pleasure and instruction to all who may be so fortunate as to enter and pursue it.

Wilson A. Bentley,
Jericho, Vermont.

[Many readers will be interested to know that Mr. Bentley will supply unmounted lantern slides of these crystals at the exceedingly reasonable price of $1.87 a dozen. He has a collection of about 1,000 to draw upon.]

PRINTS WANTED.

Our recent request for prints from extra fine negatives made with Bausch & Lomb lenses has brought us a very large number of the greatest variety, and we wish to express our indebtedness to our friends who have so kindly responded. We can still use some extra fine portraits, groups, and long-distance photographs made with single systems of the Bausch & Lomb Zeiss Convertible Anastigmat and with Plastigmat lens, as well as some extra rapid instantaneous pictures of animals and men in motion. We should also like to hear from more users of our wide-angle lenses, our portrait lenses for professional work, and from those making 6½ by 8½ or larger pictures, with the Bausch & Lomb Zeiss or Plastigmat lenses; more of our friends using the bichromate rayfilter and hand camera telephoto might also be heard from.

Bausch & Lomb Optical Co.,
Rochester, New York.

EDITORIAL TABLE.

Burke & James, 118 West Jackson boulevard, Chicago, announce that, in order to introduce Microgen, their new developing agent, in the most rapid manner possible, they have decided to send out quarter-ounce trial vials of it to all applicants who send 15 cents as an accompaniment to their order.

"Kodak" is the title of the 1902 catalogue issued by the Eastman Kodak Company, Rochester, New York. In addition to the already familiar goods that have made the name kodak renowned to the uttermost ends of the earth, there will be found in this booklet particulars of new cameras that will be found especially interesting. Very recently we had the pleasure of running through the new line of goods, and the thing that interested us most was a new folding pocket kodak, the No. 0, which is a particularly cute little thing, that would almost tempt any one to take up photography. It makes pictures 1⅝ by 2½; yet when closed it measures only 1⅜ by 3⅛ by 5⅝, and weighs but twelve ounces. It is certainly a dandy, and might be carried in almost any pocket all the year round without inconvenience. No excuse now for saying, "It was the finest subject I ever saw, but of course I had not my camera with me." At $6 this instrument will command a big sale. The No. 3 Folding Pocket De Luxe is another new addition to the list, and is, as the name indicates, a piece of exquisite workmanship. Everybody admits the beauty of the stereoscopic print, but far too few make this kind of picture. Why? The writer thinks he knows; it is modern laziness, which demands short methods and mechanical working to pattern. To print from an ordinary stereo negative, trim the prints, divide and transpose them, with all the neat adjustment essential to get a perfect print, is too much like work when it has to be done with every picture. But with a film negative it is different, for it can be cut and transposed and from that on everything is in the usual mechanical routine. It is no great stretch of imagination, therefore, to believe that the Stereo Kodak at $15 will vastly help to once again popularize that most charming and interesting phase of our art, stereography. No. 3 Folding Pocket Kodak has its field extended by the introduction of a new plate attachment with spring-actuated ground glass. Other new lines comprise a Folding Head Tripod, and the B. & L. automatic shutter, combined with the plastigmat lens. The book can be secured by forwarding request to the Eastman Kodak Company, Rochester, New York.

We are in receipt of 1902 catalogue from the Blair Camera Company, of Rochester, New York, describing many new and useful improvements in camera construction. Their latest improvement is listed as the Focusing Weno Hawk-Eye, which is the first camera offered to the public which has the advantage of focusing the object of full size upon a ground glass, and being constructed in such a manner that loading and unloading can be accomplished in daylight. The method adopted is such that the section of the camera embodying the film chambers telescopes, and when drawn upward a spring-actuating ground glass adjusts itself automatically in the same focal plane as the film, which allows focusing and centering the object accurately. After focusing, the film section is pushed in position, and, at the same time, the ground glass moves backward to its original place. This focusing improvement does not in any way hinder the use of this camera as a simple snap-shot outfit, as focusing can be accomplished in the usual manner by use of the graduated scale. Every one interested in cameras should send to the manufacturers for their 1902 catalogue.

I must express my thorough appreciation of your successful work as editor of a publication so valuable to amateur photographers and as highly commended by professionals.

ISOCHROMATIC PHOTOGRAPHY.*

CHAPTER III.

HUE AND PURITY OF COLOR.

It is proper that we now enter a little more deeply into the problem of hue and purity of color.

As it is impossible with normal vision to distinguish the component colors in white light, so is it impossible for the eye to distinguish with even a rough degree of accuracy the different admixtures which go to make up a "color." We look through the red glass and we say that it passes "red" and that is all we can say; everything to which we direct our vision is of that color and therefore we feel confident that that is the only one the glass allows to pass; but, place that same glass in front of the slit of the spectroscope and we can see that in all probability not only is the red allowed to pass freely, but also the orange and yellow, together with a little of the darker blue. In the same way we may take a yellow glass and, upon analyzing the light transmitted through it, by the spectroscope we find that besides the yellow, it also transmits the red, the orange and the green. And so on with any number of glasses of different colors — all will be found to transmit, *not a single color,* but a mixture.

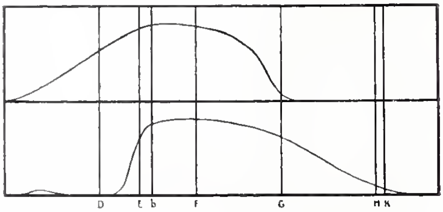

FIG. 8.

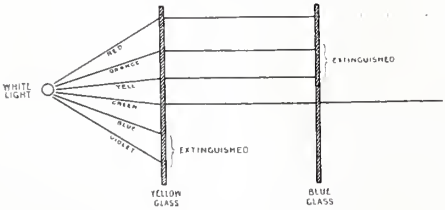

FIG. 9.

Again, we may take a yellow glass and a blue glass and superposing the one upon the other, we find upon looking through them that the resulting hue is green. Why is this? Let the diagram in Fig. 8 assist in the explanation. The upper curve exhibits the analysis of the light transmitted by the yellow glass, which, as shown, passes the red, orange, yellow and green, while the lower curve illustrates the light transmitted by the blue glass, which also allows the *green* to pass, together with the blue (and a small portion of the red). When they are superposed the result is *green,* simply because both glasses allow that color to pass through freely, while they stop or extinguish all other colors, as Fig. 9 may possibly assist in making plainer.

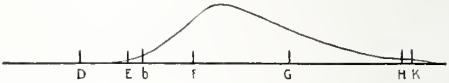

FIG. 10.

In the colors of nature we are not dealing with spectral or pure hues because from the infinite variety of angles which objects present to the eye there is always present more or less white, and it is this, in a great measure, which is the principal cause of unlikeness (otherwise than shape) in a photographic representation.

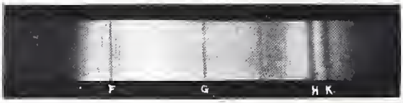

FIG. 11.

It must not be supposed that the colors of the spectrum have the power *equally* to impress themselves upon the photographic sensitive plate with their relative luminosity; in fact, it was early discovered that their power in this respect was very limited — the red, orange, yellow and yellow-green absolutely refusing to show action, while the blue-green, blue and violet were strongly active. In short, the solar spectrum, as shown by its impression on the sensitive plate, is graphically depicted by curve in Fig. 10, and again by a spectrum print in Fig. 11, which is reproduced from an impression on an undyed and unscreened plate, one that may be taken as representative of its class, namely, Seed 26 X. In this it will be noticed that even the blue-green with a higher luminosity than the blue, photographs much darker. It should also be noted that all plates are sensitive in a slightly inferior degree to the invisible ultra violet rays extending to the right beyond the K line, and which are not shown in the print because sufficiently prolonged development to show this region would choke up the lines in the visible spectrum between F and H.

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* Copyright, 1902, by F. Dundas Todd.

Now, let us compare the above " curve of sensitiveness," as it is called, with the " curve of visibility," as shown in Fig. 6. A glance is sufficient to show the great difference; for, whereas, in the visual spectrum the highest luminosity is shown to lie in the *yellow*, the greatest sensitiveness is here shown to be in the *blue* — to say nothing of the fact that the spectrum of plate sensitiveness absolutely ignores and takes no cognizance whatever of fully one-half of the colors which go to make up the spectrum. Scientifically, this plate is (generally speaking) totally insensitive to certain hues, and entirely wrong in regard to luminosity. And it is to the researches of Dr. Eder that we are indebted for the knowledge that a plate capable of representing the colors of the spectrum with their relative luminosity should show deposit as follows: The orange at C and the blue at F should be rendered by equally dense deposits; the yellow at D by a deposit six times as dense as this, the green at E by one three times as dense, and the end of the visible violet by one ten times less dense. To render the matter still more plain, were we to expose this plate upon a subject composed of a square each of pure yellow, red and blue, where the yellow is of the highest luminosity and the blue of the lowest, with the red midway — with normal exposure — the plate would give us the exactly opposite effect, as follows: Blue, brightest, and the yellow and red equally black, and it is to remedy this that the so-called isochromatic plate was introduced.

To the beginner the use of such a plate is associated in his mind solely as a means of securing clouds with the landscape at one exposure, and the most erroneous ideas are disseminated broadcast (unconsciously perhaps) by the many large display frames sent out by the plate manufacturers, and hung in conspicuous positions by the dealer.

Isochromatism (or orthochromatism) is a name derived from two Greek words which signify *correct color*, so that an orthochromatic plate means a " correct color " plate. Although custom has rendered its use general, yet the name has not been wisely chosen, for the plate does not reproduce objects in their cor-

Neg. by Richard Hines, Jr., Mobile, Ala.

rect color (nor is it intended to), but is supposed to represent colors in their relative luminosity. There is no plate yet manufactured, either in Europe or America, which is more than an approximation to the desired result.

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

CHAPTER XVI.

INCIDENTAL LIGHTING.

As the dawn comes out of darkness to awaken the day, so comes the faculty of observation and noting. What had been a blank, takes form and definiteness.

I began to see faces of men, women and children differently than I had done. I began to observe. It did not occur to me that I should do it, but gradually it came to be a habit and was resolved into a study. A pleasant, interesting and, finally, a perpetual study.

What one sees that may be helpful in his business or profession to adapt and store away for future needs are really additions to his capital.

My study was to notice how light fell upon the face and how the shadows were made. I quickly recognized and accepted what seemed correct and desirable, at the same time rejecting the incorrect. I was always seeking and adapting good lighting for portraits. That portion of the human world one sees is an open school — every face is a lesson offered gratuitously. The study is never a task, but always a pleasure, pursued without effort and unconsciously — a never-ending habit.

Where could be found a study of such interest as the human face and head? Of the millions who people the earth, no two are exactly alike, a distinctive character to each. A man don't necessarily wear a wart upon his nose to be distinguished from other men. The wonder of God's creation could hardly be more significant than in this particular. Nature has stamped its trade-mark on every human face. Students in physiognomy who study deeply and sincerely see faces more thoroughly than do other men. The evil passions of brutal, hardened hearts, the vengeful spirit, the treacherous vindictive spite, the flashing eyes, the corrugated brow, the compressed lip, the expanding nostril, the clenched jaw, the murderous thought are indexed in the faces of some; as also the generous, sympathetic, kindly promptings, the pleasant eye, the beaming smile, the welcoming spirit which springs out to meet and greet are found in the faces of others. Wonderful study, truly. We find the rascal and hypocrite to be a poor imitation of a true and manly man. I found my models in men at their desks, behind counters, in cars, in church, at the work bench — where-ever there was light and people there was my school.

In the office of the business man at his desk while discussing a trivial or important matter I notice how the light falls upon his face. I note from whence it comes, how it is distributed. I adapt the lighting for a portrait. If, unconsciously, he turn his head toward or from the source, he gives me a more or less desirable change in the distribution and blending of shadows. He is my model and my study. He is posing to me without knowing it.

The child with whom I am making friends, whether he be shy or fearless, in the innocence of his little heart as he looks up, down or askance, has given me a pose and expression which delights me and which in my mind is transferred to the camera.

The stranger I meet upon the street who inquires for the City Hall has given me a hasty sitting. I quite liked his face — while asking me a common question he was doing me a great service. Like Dickens' "little Jenny Wren" I was always a "trying on" and have a collection of mind images too great to be catalogued, and yet the work goes steadily on. It gives the student valuable training.

This study has led me to observation beyond the camera, or its application to photography, and is in line of interest to the ladies. Nature says they are the gentler and softer sex; endowed with finer sensibilities, gentler and sweeter natures, more sympathetic and sensitive.

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*Copyright, 1901, by James F. Ryder.

Without venturing to dispute so great an authority we admit the claim and accede to it. We recognize in women the cream of God's creation. From the cradle to the grave she is our dearest blessing.

The little breathing bud in her cradle holds our hearts in her tiny hands, she is our princess, we her slave.

The " wee tot " who seems to meet us with merry heart, and gives us welcome to our home is the brightest sunshine and our sweetest pleasure — bless her!

The maiden sweet and shy just learning she has a heart, trusting, innocent, pure, honors her father and her mother — bless her dear heart.

The wife, the mother, the true woman, the maker of a happy home, faithful, loyal, unselfish — bless her noble heart.

The dear old grandmother in her easy chair, sweet in her lavender and laces, proud of her great brood of three generations, full of stories for the children, loved by all, seeing heaven plainer as she nears it — bless her dear old heart.

Dr. M. H. Cryer, Philadelphia, Pa.

AFTERNOON ON THE LAKE.

To such as these should come only the eiderdown of kindness, the soft breath of laden fields — all which contributes to harmony should be theirs. Instead of rough winds, the gentle breeze. Rather than a blaze of light, a soft subdued illumination, a light which is mixed with shadow, a kindly mellow light, ladies, is best for you — the soft light conceals what a harsh or brilliant discovers.

Few people pay attention to or make a study of light and lighting. As " there are sermons in stones " there are also lessons in the shadow of a hitching post. Knowledge and ignorance go hand in hand. Light is both an enemy and a friend, according as it may be used. We know it comes from the heavens rather than out of the ground, yet choose to force it up hill rather than take it first hand from the Creator.

The manner of admitting light into buildings and homes is faulty in the sense of giving best effects. Windows should be high in rooms and light admitted through the upper portions, rather than the lower. Rooms should be filled with soft light to give cheer and health. Instead of dark or opaque shades and heavy thick hangings, through which light can hardly struggle, pleasant buff shades which are luminous and convey light, aided by muslin or lace curtains, are best for homes. Shades hung to pull up from the bottom rather than down from above are preferable. As a rule, valuable pictures are given the gloom of hanging space, while the floors are given the light. Dark wall papers are depressing, while lighter tints and colors impart cheer and buoyancy. Ladies may look to advantageous lighting as a means of increasing beauty. Keep in mind a strong light produces violent contrast of shadow and illumination which is trying to a lady's face. A soft light and soft shadow gives gentle rounding and good definition — concealing rather than emphasizing a possible blemish. In sitting at a window the light should pass a little in front of the face and at an angle which would admit of its reaching the shaded side. To sit with a strong light coming squarely in front where both cheeks are equally illuminated is to be positively avoided. It makes the face a blank by robbing it of all shadows. The little depressions and articulations of surface anatomy are lost, while a little turning of the head either way immediately restores the shadows by the changed direction of light, and the lost dimples, the contour of cupid's bow to the lips, and little " well holes " at corners of mouth, are all back again. A judicious blending of light with shadow quickly makes or unmakes beauty in a woman's face.

With an understanding of these light and shadow values it is as easy for ladies to look their best as to fail in it. The demonstration of this knowledge is easily acquired. The reward comes quickly and satisfactorily.

In choosing a pew in church it should be remembered that a window just opposite and near the sitting is objectionable to good light effect — a seat or two back is more desirable, as it avoids the abrupt shadow. Artificial light, gas or electric, should be shaded with porcelain or ground glass.

The most favorable direction for the light to fall upon the person is at the angle of forty-five degrees from above and ten to twenty degrees back of the falling light.

Do not try to abolish shadows, but to soften them. Find the soft effects and wear them if you would be lovely.

An instance in illustration of the quality of light and the direction in which it may fall upon a face may be understood by the following description. A lady noted for her beauty — a brunette, with soft dark eyes and clear fine complexion — spent an evening in my house to meet some friends whom I had prepared to see a beautiful woman. It so happened that unconsciously she took a seat directly under the chandelier where the force of light struck forehead, nose, and cheeks, illuminating them abnormally. The shadows, by violent contrast, quite concealed her eyes, leaving only black patches of shade, with no illumination to give detail or expression. The nose threw a heavy shadow across the upper lip, the mouth and upon the chin; the lower portion of the cheeks, the throat and neck, were in deep shadow. The lines at the corners of the mouth were elongated and inky in shadow. There was a really handsome woman looking absolutely hideous. Every smile she gave was a grimace, a smooth skin was roughened, her hair was like wires. I was greatly embarrassed at the injustice done her by an unscrupulous light, hurriedly called my wife aside, directed her attention to the unfortunate situation and got her assistance in remedying without exposing it. When on some pretense she got the lady to rise I hastily removed her chair to a position in a good light where justice was done her and my friends were enabled to see her to advantage.

That women are not all alike, and their acts sometimes seem unaccountable, I offer this following incident in evidence. A woman about forty, quiet and unobtrusive to meekness, came in one day to sit for a picture, but was quite undecided as to the style she ought to have. She desired me to advise her if she had better have her bonnet and shawl on and whether she should have her hands to show in the picture. I advised her as well as I could and we passed into the sky-light room for the sitting.

It happened that I had a silver bath, which is a solution of nitrate of silver, in an evaporating dish upon a gas stove, being gently heated for the purpose of purification. The solution in the porcelain dish was colorless and clear like pure water. It struck me as I saw the woman step up to the mirror and pick up a hair brush preparatory to redressing her hair that I had better caution her against dipping the bristles into the solution as women often do, so I called her attention to it and told her to avoid touching it in any way as it was a chemical under process of purification and would turn anything black that it came in contact with. The dish was eight or ten feet from the dressing table and would seem safe from interference without the caution I gave. While she was fixing her hair I stepped into the reception room to meet a customer. On returning to my sitter she said, "why, that water is warm; what did you tell me about it?" "I told you that it would color anything black that it came in contact with. Now, what have you done?" She replied, "I only wet the corner of the towel and wiped my face with it, did you tell me it would turn me black?" The poor woman seemed to be just coming to a realization of her blunder and was greatly excited. She said, "If you hadn't told me anything about that confounded stuff I wouldn't have thought of touching it. Oh, what shall I do? I'm in an awful state of mind."

I explained to her that her face would turn black from her washing it with the chemical and would remain so for several days until it gradually wore off, that it could only be removed by application of a deadly poison which I dared not use; that she could not scour it off but must patiently wait. I think I was as badly frightened as was the woman and very anxious to get her home. I hurriedly went to a store, got some brown veiling, folded it double over her face, called a carriage and escorted her to her home.

I found her daughter and explained the mishap into which her mother had placed herself and got away as quickly as possible. I never heard a word of the lady afterward. She "kept dark," at least for a time, and I have, until now. I have always wondered what possessed the woman to disregard my caution and commit such a folly.

JUDGES IN THE KODAK PROGRESS COMPETITION.

Rochester, N. Y., March 24, 1902.

Photo-Beacon Company, Chicago:

Gentlemen,—The readers of your medium will, no doubt, be interested in the fact that Mr. Charles I. Berg, Mr. Henry Troth and Mr. Rudolph Eickemeyer, Jr., have consented to act as judges in the "Kodak Progress Competition." As you are aware, these men stand at the forefront of photography, and we feel confident that the best photographers will have perfect confidence in their ability to pass judgment on the pictures submitted. Yours truly,

Eastman Kodak Company,
By L. B. Jones.

WHEELS IN MOTION.

Periodically questions are put in the photographic press as to the why and wherefore of sundry curious phenomena that appear in photographs of the wheels of moving vehicles, and these practical queries are sometimes supplemented by hypothetical questions as to what would happen under certain peculiar conditions. As the whole matter is both theoretically and practically interesting, a brief explanation of the various points raised may be of use.

We may summarize the questions usually asked as follows:

(1) Why is the bottom of the wheel often better defined than the top?

(2) Why do the lower spokes of a moving wheel often appear to be curved?

(3) How should exposure be adjusted so as to correct these effects?

(4) What is the effect produced if the photograph is taken from a second vehicle moving at the same speed and in a different direction parallel to that of the vehicle to which the wheel belongs?

(5) Why in cinematograph views do the wheels of moving vehicles sometimes appear to skid without revolving, or to revolve at too slow a speed, or to actually revolve the wrong way?

Questions 1 and 2 relate to appearances that every hand camera worker must be familiar with. Question 4 is a hypothetical one that occasionally brings out some most irrational answers, and question 5 describes some effects that often puzzle the spectators at that splendid cinematograph lecture called "Our Navy," for in one particular view showing the bluejackets with their field guns at the Agricultural Hall all the appearances mentioned occur and recur in the most puzzling fashion.

To answer the first question we must refer to Fig. 1, which shows one revolution of a wheel with only two spokes in a line with each other. In the first position of the wheel the spokes are vertical, and run from the top, A, to the bottom, B, of the wheel; the last position is, of course, similar, but fifteen intermediate positions are also shown. If we examine all the various successive positions of the points A and B it will be noticed that in one revolution the point B travels in a cycloidal curve, B, B1, B2, while the point A travels through two semicycloids, A, A1 and A1, A2. The wheel being assumed to travel at a uniform rate, and each position illustrated being attained at the end of equal periods of time, it is apparent from the unequal spacing of the various positions of the points A and B that these points travel at varying speeds. As A descends to A1 it moves at a steadily diminishing speed, while B rises to B1 at a progressively increasing speed.

QUESTION OF SPEED.

The two points move at equal speed when both are on the same horizontal line, and the greatest difference between their speeds exists when the two are in the same vertical line. In the latter case the lower point is practically motionless during the brief space of time occupied by the higher point in swinging from one side of the vertical to the other, and during that short time the lower point is simply the fulcrum about which the lever A B is moving. As the axle of the wheel is half way up the lever, the top point is moving at twice the speed of the axle, or at twice the speed of the vehicle to which the wheel belongs, and this being the maximum speed of any part of the wheel, exposure must be regulated accordingly to obviate all appearance of movement. This does not apply only to the particular point illustrated, it applies always to the upper point in any position of the wheel. Whatever the size of the wheel or the speed of the vehicle, the point that at any moment is at the top of the wheel is moving at twice the speed of the vehicle.

Next, with regard to the curvature of the spokes. Reference to the figure will show that the lower spoke of the two shown is always tangential to a caustic curve, B C A1, or A1 C B2, which it describes as the wheel revolves. If now any motion of the lower spoke is apparent in the photograph, the more distinct portion of the image of the spoke will show the curve in which the spoke moves. If, as in Fig. 2, we have a wheel with sixteen spokes, each of the lower spokes will move around similar caustic curves, and if movement is perceptible each spoke will be concave to the lower part of the wheel. All these curves are shown in Fig. 2, and also the cycloidal curves, up and down which the ends of the spokes travel. On the right of the figure is shown a series of images of one pair of spokes, formed during the movement of the axle of the wheel from A to C. If exposure lasted for that time it is evident that the upper spoke would be blurred out of all recognition, while little of the lower one could be distinguished outside the portions that in combination produce the caustic curve.

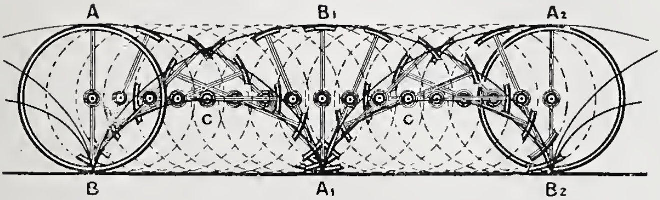


Fig. 1.

AXLE MOVEMENT.

It is further apparent that obvious movement of the axle is essential to the appearance of the curvatures, or, in other words, that the vehicle itself must be blurred if the spokes are curved. Curvature, therefore, is nonexistent if we regulate exposure by the speed of the vehicle, though we must allow for twice that speed to secure definition at the top of the wheel.

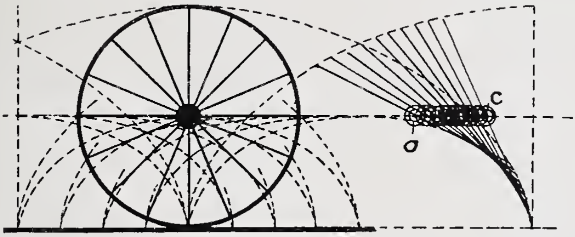


Fig. 2.

With regard to the hypothetical problems mentioned in question 4, if the top of the wheel always moves at twice the speed of the vehicle, and the bottom is stationary, then if the camera is moving at the same speed as the vehicle, and in the same direction, it is always in the same position relative to the vehicle, while it is passing the bottom of the wheel at the speed of the vehicle, and is being passed by the top of the wheel at the same rate. In effect, the top and bottom of the wheel are moving at the same speed, but in opposite directions, or the wheel is apparently simply spinning on its axle at the same rate as the forward movement of the vehicle; we, therefore, determine the exposure according to that rate, and this permits us to give just double the exposure that would be necessary with a stationary camera.

DOUBLING OF SPEED.

Suppose, however, that the camera is moving in an opposite direction to the vehicle, but at the same speed. The speed of the vehicle relative to the camera is then doubled, being equal to the sum of the actual velocities of vehicle and camera. The relative speed of the top of the wheel is equal to its actual velocity plus the velocity of the camera, or to three times the actual speed of the vehicle. This is then the speed by which we must determine exposure. As examples of the three cases, assume the vehicle to be traveling at a speed of four miles an hour. To render the wheel sharply in a stationary camera, we must calculate the exposure for an object moving at the rate of eight miles per hour. Assume the result to be one-sixtieth second. If next we move the camera at the rate of four miles an hour in the same direction as the vehicle, we should calculate exposure for an object moving at four miles an hour, which will give a shutter speed of one-thirtieth second. If, again, the camera moves at a rate of four miles an hour in the opposite direction, we must allow for a speed of twelve miles per hour, which will only permit an exposure of one-ninetieth second.

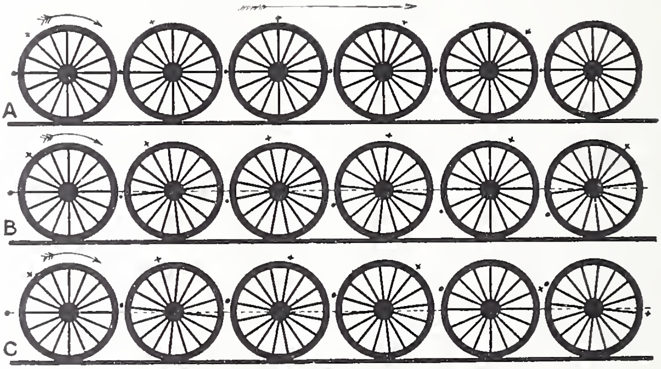


Fig. 3.

WHEEL MOVEMENTS.

We now come to the last problem relating to the apparent movement of wheels in cinematograph views. The effects described in the question may be said to be due to an error of the spectator, who simply mistakes one spoke of the wheel for another, all the spokes being alike. If the wheel had only two spokes, the illusion would not appear but the spectator would become aware, by the jerkiness of the effect, that the wheel was traveling too fast for the cinematograph, which is the real cause of the various illusions described.

If we assume that we have a cinematograph apparatus giving sixty-four exposures per second, and then graphically test the effect of such a series of exposures upon a sixteen-spoke wheel traveling at the speed of four, three and five revolutions per second, all the different effects referred to can be produced.

SINGULAR ILLUSION.

In Fig. 3, row A represents six exposures on the wheel, making four revolutions per second in the direction of the arrow. As there are sixteen spokes, at each exposure each spoke has moved forward to the place occupied by the adjacent spoke at the last exposure. Therefore, if the spectator fixes his attention on one spoke, say the one marked by a dot, that spoke never appears to move at all, and the wheel seems to simply skid along the ground. The real motion of the wheel is indicated in the figure by the cross; but this real motion is not apparent to the spectator, as all the spokes are alike.

Next, suppose the wheel to be making three revolutions per second (see row B). This is a slower real speed than before, as indicated by the crosses, and at each exposure each spoke only travels three-quarters of the distance that it did in the former case. The spectator will now see a movement of the spokes, but if with one view he fixes his attention on the spoke marked by the dot, in the next view he will transfer his attention to the spoke nearest the apposition, which happens to be the succeeding spoke.

CONFUSION OF SPOKES.

As this spoke has not yet reached the position of the former one, the wheel appears to be traveling backward, the apparent motion being indicated by the dots in the figure.

In the last case, in row C, the wheel makes five revolutions per second, and the true motion is indicated by crosses, as before. The apparent motion is shown by dots, and in this case each spoke has traveled one and a quarter times the space between two spokes at each exposure, but the spectator again confuses the spokes, and only allows a quarter of a space as the movement. This makes the wheel revolve in the right direction, but apparently at only one-fifth the proper speed.

The only way to prevent the spectator from confusing the spokes is to arrange matters so that the movement of a spoke at each exposure is less than half the space between two spokes. In the particular case we have considered the speed of the wheel must be less than two revolutions per second to produce a perfectly natural effect.

C. Welborne Piper,
Amateur Photographer.

FLOWER PHOTOGRAPHY.

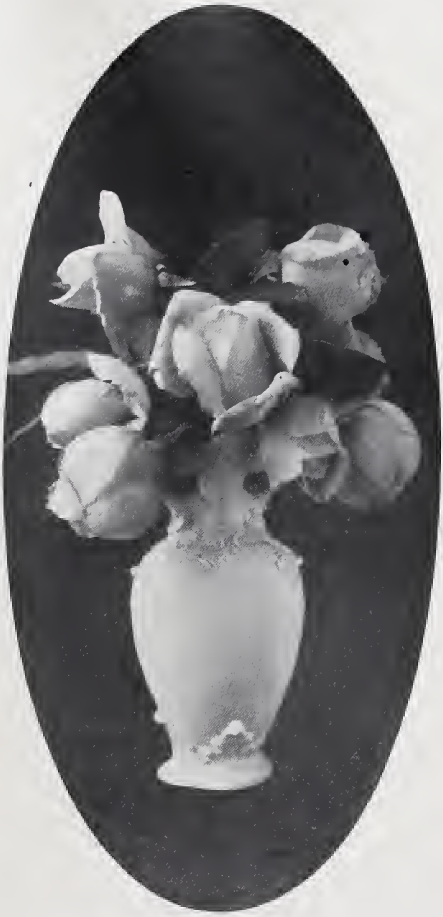
BY RICHARD HINES, JR., MOBILE, ALA.

(Illustrations by the author.)

With the editor's permission, I propose to follow the advice he gives in "Photographic Sociology" in the February number, and get "in touch with some of the outside photographic thought," as I do not propose to develop into "a mental fossil."

That article on "Photographic Sociology" and the awards in the flower competition must be my excuse for unloading on the readers of The Photo-Beacon my views and experiments in flower photography.

I note the view of the editor that, "while technical skill is very important, the matter of decoration ought to be paramount," and it has occurred to me in reading over the particulars of the winning pictures that the makers would no doubt be able to greatly improve their technical skill if they will take advantage of the experiences to be related in this article. Most of the editors say, "Write us articles on how to do things, and tell us the why." That is what the writer will try to do.



Neg. by Richard Hines, Jr., Mobile, Ala.

If we endeavor to make our photographs pleasing, we must have due regard to the laws of composition, and of the massing of light and shade if we wish to raise them from mere records of fact to the pictorial plane. Technic, however, should not be despised, and this seems to be particularly the case in flower photography. When we enjoy the beauties of a flower it is held in the hand, close enough to the eye to take in all the delicate detail of petals and leaves and stamens, and in photographing them it should be our endeavor to make our composition decorative and do our best to pleasantly fill our picture space; but at the same time we should also endeavor to correctly render the delicate detail and the very texture of the flowers themselves.

My criticism, therefore, of the prize pictures in the pictorial award No. 44 is that all of them are woefully underexposed. In my own work I aim to secure a soft negative, full of delicate detail and of good density, being careful in my development never to let the high lights clog up if it can possibly be helped. To that end I give very full exposures and use a diluted developer. Isochromatic plates I regard as a necessity, not alone in this but in most all other branches of photography.

The light by which I work is from a west window about 3 by 4½ feet. This is screened with an ordinary sheet of cotton sheeting. My exposures vary from two to three minutes, even on the lighter colored flowers, and longer on the deep reds. The latter must be flooded with light in order to get anything like a good result, as must the deep yellows. In fact, I have not yet succeeded in getting anything at all satisfying in either of these two colors. I have secured detail and form, but the tone values have been incorrect through the strong lighting which seems to be a necessity.

My camera is a telephoto Poco A, and though most of the authorities recommend a short focus lens, I use an 11-inch Gundlach symmetrical in preference to an 8¼-inch Bausch & Lomb rectilinear. I imagine that I get better modeling with the long focus lens, and I have found its depth of focus sufficient for my purposes in this work.

I judge that the picture by Mr. Taggart was of red double poppies, but as he gives no statement as to his timing, his failure of technical success may be due to lack of light, or lack of exposure, or both. Mr. Schuler's daisies, while prettily composed, show great underexposure, the petals being clogged from forced development and there being a lack of detail as well as of tone value in the centers and in the stalks and leaves.

I am sending to the editor with this article four examples of my work, with full data of exposure and making of the negative of each, which I hope he will be able to publish. I have found this method of keeping tab on every step of my work of great benefit to me in my efforts to constantly improve, and can recommend it.

With regard to backgrounds I use large sheets of cardboard of various colors, which can be bought 30 by 40 inches — amply large if one uses a long-focus lens. If they are overlapped and photographed the amateur has the value of each of his backgrounds and can easily select the one which best suits his flowers. With a little care in handling your light you can easily get a shaded effect on a background. All the photographs sent with this article were made against a dead black background, and the shaded effect was obtained on some of them by the management of the screens at the window.

A careful study of the data I send will show that even a difference of one or two degrees in the temperature of the developer has an appreciable effect upon the first appearance of the image; the distance from the light of the window is another factor, and, of course, the strength of the developer another. If one wishes to do good work and make his good work better he must be a student and have an intelligent appreciation of the influence of the many factors that enter into the successful exposure and development of a negative, and it is only by taking the little time necessary to make a record of these things that they can be made of value. The memory racket is a failure, so far as the writer is concerned, and he has a memory trained by twenty-five years of service in newspaper work and by some esteemed remarkable, but it has proved treacherous to him in remembering photographic data.

If this article helps those prize winners to win more prizes with more perfect pictures, I shall be amply repaid for its writing. The writer has been impelled by no desire to make captious criticism of their efforts, but rather to lay before them and other readers of THE PHOTO-BEACON his experience and its results, which are by no means perfect, in the hope that some one more capable than himself will be impelled to give him some hints by which he can climb higher in his efforts to perpetuate the beauties of the floral kingdom.

RICHARD HINES, JR.

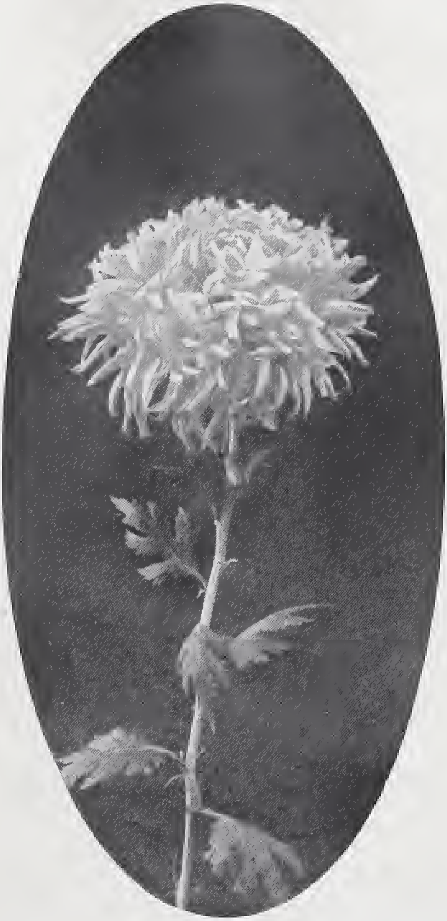
"THE FIRM."

Mobile, Ala., *Feb. 15, 1902.*

No. of Neg., *281.*
Subject, *White Cosmos.*
Exposure, *2 minutes.*
Stop, *f 32.*
Developer, *Velox MQ 1 oz., H^2O 5 oz.*
Temperature, *66 degrees.*
Time of appearance, *3 minutes.*
Time of development, *12 minutes.*
Distance from light, *3 ft., screened.*
Character of light, *cloudy, bright outside.*
Lantern slide contact, ...
Lantern slide reduction, ...
Enlargement size, ...
Time of day, *10:15 a. m.*
Lens used, *Gundlach Sym.*
Focal length, *11 inches.*
Size of plate, *5 by 7.*
Kind of plate, *Cramer Iso. Inst.*

REMARKS.

Print on Eastman W. D. Platinum. Exposure made by a west window about 2½ by 4½ ft. This applies to all four prints sent. The M. Q. developer is the Velox formula, diluted as indicated.



Neg. by Richard Hines, Jr., Mobile, Ala.

MY EXPERIMENTS.

NO. VII.

One day, several years ago, I happened to drop in on Harry Sheppard, a good, very good photographer, in St. Paul, Minnesota, who, as far as I know, enjoys the distinction of being the only colored gentleman in the business as a studio owner.

Harry and I were great friends. Occasionally I would make some silk prints for him, and, just as occasionally, he would make a couple of negatives for me, so that we were about even, in the long run, in exchange of courtesies.

This day he said to me, "I have got a good one for you to-day. The Mrs. has bought me some silk handkerchiefs for a Christmas present, and she is willing to bet you all you want to put up that you can not put my photograph on them."

This sounded suspicious. I rather smelled that something was wrong, and declined to bet, but volunteered to try my hand at the job, anyway.

He and his Mrs.— she was standing there with him — looked at each other and smiled, and, on his bidding her to get them, she went into one of the inner offices and brought out a neat little pasteboard box, saying, "There you are — now let us see you make the photographs."

I opened the box. It contained a half dozen fine, expensive silk handkerchiefs, but they were black — jet black, blacker than the inside of a deserted coal mine — and it was on these that they expected me to make photographs.

I remarked that the selection of color was certainly appropriate to the subject (which remark was slanderous, for Harry is no darker than the average Spaniard, and his wife is toned in harmony with him), but that it did not stand high as an exponent base for high lights. Still, if he would make me a glass diapositive, I believed that I could print the high lights so that they could be sepia toned with gold and thus make some sort of a contrast.

He agreed to make me a diapositive at once; and added that if I succeeded in making a reasonable print on the black handkerchief he would buy me a good hat; and his wife added that she would also contribute a new hat. Whereupon I opined that if I did make a good print I should certainly need a new hat, and would need it two or three sizes larger than usual, at that.

I took the handkerchiefs with me and sensitized a couple of them that evening, using the solutions that I patented in 1892, figuring that it should be possible, by printing deeply and thus obtaining a fairly heavy deposit of silver on the cloth, to afterward tone the negative image, or high light deposit with gold so that it would give me sepia tinted high lights with the black silk for background and shadows, a combination that would be not strictly inharmonious with the subject.

This, I believe, would have worked all right only for one thing, but, alas! that one thing was insurmountable. The black silk absorbed all of the light rays to such an extent that an exposure to bright Minnesota sunlight for one entire day did not result in the slightest apparent change in the usually highly sensitive silver compound with which I had prepared the handkerchief, and, on washing and toning it (which I did on suspicion) there was nothing to indicate that the long exposure had affected it in the slightest.

I did not call around for the hats.

In a few days I received a note from Harry asking me to hurry those prints along, as they were intended for Christmas presents (for Christmas of that same year — not some other year) and, if I had failed to get any results, to send the handkerchiefs back and he would send them plain.

As silver printing on black cloth seemed to be an impossibility, I had, in the meantime, been speculating as to the feasibility of printing with a modification of the carbon process, and wrote Harry to that effect, promising him that he would receive either the plain handkerchiefs or some printed ones within two days. Then I made me some thick gum-arabic mucilage, charged it heavily with chinese white and smeared it on one of the handkerchiefs which I had first soaked in a saturated solution of bichromate of ammonium, and, after well drying it, exposed it under the diapositive.

Do you suppose that I got a print? No, sir; not a print — at least, not a visible one. There had certainly been a reaction in the bichromate, and the gum was hardened in the places where such hardening was necessary, but the zinc oxide of the chinese white had balked and obscured itself in a neutrality of color that disbarred it from a participation in this new photographic glory, and I was still shy two new hats.

Although Harry received his handkerchiefs back wholly unsullied in their purity of shining black, I am still of the opinion that photographs can be made on black cloth if the gum-bichromate process be employed in connection with some white pigment (?) that does not depend on a metallic oxide for its whiteness.

The Japanese photographers make excellent photographs on their black lacquered ware by a modification of the carbon process (the dusting-in process), using gold dust or, so-called, silver dust for the pigment, and some day I will make another trial at it.

It is improbable that the precise method used by the Japs can be used successfully on cloth, for the dusting in of the metallic powder would so fill the interstices with the shining particles that it would be next to, if not quite, impossible to ever get rid of them, especially if the cloth were at all damp at the time of the dusting; but it is not unreasonable to suppose that a gum-bichromate solution, charged with such an insoluble compound as sulphate of barium, could be relied on to do the work.

If any of my readers are enough interested in the problem to feel like making the experiment, I would refer them to any standard work on gum printing for the details of preparing a sensitive solution, and, in the case of their being unable to readily procure the barium sulphate, would suggest the following as a simple method of preparing it for themselves:

Get some nitrate of barium from your druggist. He has it or can get it for you, for it is extensively used in pyrotechnics and is the basis of green fires.

Place half an ounce of it in a bowl and add eight ounces of water. When it has dissolved, slowly drop dilute sulphuric acid into it as long as a white precipitate continues to form. Let it settle, and pour away the water, leaving the precipitate in the bowl. Then add another eight ounces of clear water and stir it up again, and again allow the precipitate to subside. Change this water and repeat the operation several times so as to get rid of the free acids, and then drain the precipitate as carefully and as completely as possible.

The result will be a damp mass of reasonably pure barium sulphate which can be worked into the gum-bichromate solution, and you can make pictures with it on dark surfaces by printing from a glass or film positive, and then manipulating the print like any other gum print.

Ralph Martin.

The Photo-Beacon "Exposure Tables" are guaranteed to be correct. Price, 25 cents.

THE DEVELOPER AND ITS CONSTITUENTS.*

BY A. K. BOURSAULT.

CHAPTER III.

ON ALKALIS.

It is not advisable to review here all the alkalis that have been proposed and sometimes used for photographic purposes as substitutes for the ordinary hydrates and carbonates. Neither shall we stop to consider such bodies as acetone or any of the accelerators of the amine series, in which the hydrogen of the ammonia NH^3 is replaced by radicals of the fatty carbides, as CH^3, C^2H^5, C^3H^7, etc., like trimetylamin $N\ (CH^3)\ 3$, for instance. They have been studied more particularly by the brothers A. & L. Lumiere and Dr. Eder. As they are mostly of speculative interest, we refer the reader who would like to enter more deeply in that subject to the works of those scientists, where he will find all information and formulæ he may desire.

We shall confine ourselves to the review of those alkalis alone which for a long time have been the stand-by of all photographers, and are still used to the exclusion of nearly all others.

The alkali that some years ago was almost the only accelerator used with pyro and has still many enthusiastic friends, especially in England and France, is a solution of ammoniac gas in water, more generally known under the name of ammonia or liquor ammoniæ. In England the stronger ammonia contains about thirty-eight per cent of real ammonia (NH^3), while in France and in this country the stronger ammonia sold contains only twenty-eight per cent of the gas, the density reading being about 0.9026 Baumé. It has now been displaced by the weaker alkalis (carbonate of potash and carbonate of soda), and except in England, but few still cling to its use, although ammonia has qualities of the first order not to be found, in the writer's mind, in its newer substitutes. The main reasons for its abandonment are, first its volatility, second its liability to produce both general and dichronic fog, especially with orthochromatic plates, and with stale plates which are but too often found on the market; third, the fumes it evolves, and which, especially in badly ventilated darkrooms, are sometimes very trying to the operator. We shall consequently not consider it any longer.

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*Copyright, 1902, by F. Dundas Todd.

Neither shall we loose much time on the two other caustic alkalis known as potassium hydrate and sodium hydrate, or more commonly as caustic potash and caustic soda. They have in common the great defect of strongly acting both on the gelatin film and on the fingers of the operator, and are better dispensed with whenever possible. Their use is confined to but few of the newer developing agents, mostly to hydroquinon, in connection with which they furnish very quick and powerful developers, and can hardly be replaced by any other alkali.

Caustic potash and caustic soda should be bought in sticks and kept in well-stopped bottles. They are both to be found in very different states of purity. Alcohol potash and alcohol soda are purer in quality and should always be purchased in preference to the more common grades. In contact with the air they will absorb carbonic acid and deliquesce, rapidly losing their strength. They must be handled with care, the fingers being very dry and being well cleaned after handling, or better, rinsed in some slightly acidulated water, and well washed afterward. In this way all harm will be avoided even to the most delicate skin.

Whenever possible (and it is possible and advisable in most cases with nearly every developing agent, not excluding hydroquinon), carbonate of potassium or carbonate of sodium should be substituted for the above-mentioned hydrates. In an excellent booklet by Mr. Milton B. Punnett, which should be in the hands of all interested in photography, entitled "Practical Chemistry for Photographers" (this book can be had free from the Standard Dry Plate Company, Lewiston, Maine), the author points out that all these salts are getting slowly displaced by sodium carbonate, and that there is no reason why there should be any other. The general trend of the human mind is toward simplicity, and the sooner we reach this goal the better. Considering the relative merits of potassium and sodium carbonate, Milton B. Punnett says: "As far as relates to the production of speed, density and chemical quality, potassium carbonate is just as good as sodium carbonate, and no better. Sodium carbonate has the advantage of being more easily obtained of a definite strength, purer quality and cheaper price. Potassium carbonate (sometimes called salts of tartar), is deliquescent, that is, it absorbs water from the air and becomes semiliquid, etc." While we heartily endorse his opinion as a whole, we beg, however, to differ on two points. First, that when used in connection with some of the quick-working developers of the coal tar series, like metol, eikonogen, etc., carbonate of potash gives, to our mind, more crispness and brilliancy to the resulting negatives. For the same and some other reasons, Baron V. Hubl, in his studies on the development of underexposed plates, recommends the use of carbonate of potash with glycerin. Second, that carbonate of potash (C. P.) and of great purity (Schuchardt's) can be had in this country, although we admit that there is very much greater trouble in getting it than it is to procure pure carbonate of soda, which can now be had nearly everywhere. As to sal tartar, or the common kind of carbonate of potash, it is decidedly inferior to even sal soda, and should never be used.

We need not concern ourselves very much about the impurities that can be met with when purchasing a good brand of carbonate of soda. They are few, and not obnoxious to the photographer. There are traces of caustic alkali always to be found in it, but in too small quantity to be noticed in development.

Sodium carbonate will be found on the market in several different forms, the most generally known being first the anhydrous C. P. which the writer recommends to use whenever obtainable; second, the monohydrated sodium carbonate, sometimes sold as the C. P. article under the name of "dry" granulated, etc., sodium carbonate; third, the crystallized hydrated sodium carbonate ("soda crystals," "washing soda"), consisting of only about thirty-seven per cent of the dry salt and sixty-three per cent of water.

It will be seen at once that in the making up of a formula, great care must be taken to notice which kind of sodium carbonate is specified in it, as the resulting developer would either lack very much in strength, or, on the contrary, be far too energetic, according to the kind used. Even then, formulæ of platemakers must be taken with a grain of salt, and it is a subject of great regret to the writer to have to point out the inaccuracy of some formulæ which would always yield fine results if these were not jeopardized by their want of correctness. In consequence, they often prove unsatisfactory in their working to the common disadvantage of both the customer and the platemaker. In the instructions given with two or three of our best brands of plates we can read: "If carbonate of soda, dry C. P. (of a certain make) be used instead of crystals, take only half the quantity." Now this is entirely wrong, and leads to regrettable errors. If the formula of the maker calls for two ounces of carbonate of soda crystals, and one ounce of the dry salt be used, you are not making up your developer according to the formula, but you are, in fact, increasing the alkali by three-quarters of an ounce, as will be readily seen by the following table, which shows the equivalent quantities of the three forms of salts aftermentioned:

Anhydrous Sod. Carb. C. P.	Monohydrated Sod. Carb.	Sal Soda Sod. Carb. Cryst.
1.00	1.17	2.70
0.85	1.00	2.31
0.37	0.43	1.00

It has always been a surprise to many that more complaints have not been made to the platemakers. The only explanation which will account for it is to be found in the long-suffering qualities of our old friend pyro, for whose benefit these formulæ have been devised and whose well-known elasticity allows it to work well, or comparatively well, under circumstances which would prove fatal to any other developer. And then there is possibly a grim penalty that befalls the erring platemaker, to-wit that when the excess of alkali has fogged his plates. After all, it is the plate that gets the blame for it, which is regrettable, to say the least. A. K. BOURSAULT.

ECONOMY.

In the February issue of THE PHOTO-BEACON is an article entitled "Economy for Beginners," by H. E. Pumphrey, in which he demonstrates the economical feature of self-preparation of developers and combined toning and fixing solutions. This was just the thing which hit me. I am not so very familiar with the manufacture of combined gold toning and fixing solutions, but I will try later on to secure some good formulæ for this purpose. Developing formulæ are always given by the manufacturer and also by the different plate and paper manufacturers, but mostly they are given for the use of professional photographers and seldom adaptable for the convenience of amateurs.

A few weeks ago I requested the manufacturers of Tolidol to furnish me a one-solution formula instead of the three-solution, which they advertise in their booklet "Photo Pointers," and in return received a nice, long letter with a one-solution formula which I have prepared according to directions.

My outlay for material was very small, I believe I paid as much as 50 cents for all the chemicals and still I have got sodas enough to make 100 ounces or more of developer. The developer worked perfectly and all my tests have proven to be very satisfactory. I think it will be my standby now for a long time to come.

In the following I copy the letter which I received from the Chicago Chemical Works, the Tolidol People, and hope that it may be of benefit to some of my amateur friends.

CHICAGO, February 5, 1902.

DEAR SIR,—We are in receipt of your favor of recent date, and in reply would say that lately we have had several inquiries similar to yours concerning Tolidol formulæ.

Mr. F. J. Monsen, demonstrator for Kirk, Geary & Co., of San Francisco, is responsible for a developing formula that opened up a new field for Velox paper. He writes:

"Tolidol is the agent that does the trick, but the composition of the developer is somewhat different from the formula furnished for the purpose by its manufacturers."

We have altered this formula somewhat and below give you one which has proven to be a sure success and of great benefit to the operator:

Tolidol	½ ounce.	
Sod. Sulphite, dry	1¼ ounces.	(2½ ounces, crystal.)
Sod. Carbonate, dry	2¼ ounces.	(5⅝ ounces, crystal.)
Water	32 ounces.	

Dissolve the carbonate and sulphite of soda in 16 ounces of distilled or filtered rain water (the water may be warm for quicker action), then let it stand over night and decant the clear solution or filter and then mix with the Tolidol solution made by dissolving ½ ounce Tolidol in 16 ounces of water.

The Tolidol solution should not be prepared until the soda solution is ready for use, and as soon as the Tolidol is dissolved, pour this solution without filtering into the clear soda solution, shake up well and bottle in small (4 or 8 ounce) bottles. If a developer for dry plates or developing papers deteriorates, the cause is usually the absorbtion of oxygen from the air; therefore fill the bottles up to the neck and paraffin the corks.

One-half-ounce bottles Tolidol are for sale by all dealers in photo supplies at 30 cents.

This is a one-stock solution and has to be diluted before using as follows:

1.— For plates and films: 1 part solution, 2½ parts water.

2.— For developing papers: 1 part solution, 1½ parts water, 1 to 3 drops of a 10 per cent solution of bromide of potassium to each ounce.

3.— For process work (lantern slides, etc.): 1 part solution, 2 parts water, 5 drops of a 10 per cent solution of bromide of potassium to each ounce.

This formula has the advantage of a single stock solution, is absolutely perfect as keeping quality (if good chemicals and distilled water are used in preparing same) and answers the purpose for all brands of plates and films, as well as developing papers. It is simply a matter of changing the amount of water for dilution and adding the proper amount of retarder: the latter should always be used as a 10 per cent solution.

Regarding the treatments for over or under exposures we refer you to the tables given in our "Photo Pointers," a copy of which we enclose herewith.

Yours very truly,
Chicago Chemical Works.
P. F. Nelson.

When I am asked hard questions now about how I get good pictures, I just say, "Take The Photo-Beacon."

Every photographer should not fail to investigate the newest Iris Diaphragm Shutter which is just offered by the Bausch & Lomb Optical Company, Rochester, New York, called by them "Volute." Necessity is the mother of invention, and she has brought forth in "Volute" a shutter which meets all the necessities of modern photographers in the best possible manner. "Volute" is the most compact and smallest Iris Diaphragm Shutter yet made. It will take larger lenses and lenses with combinations closer together. It is the speediest Iris Diaphragm Shutter; express trains, jumping athletes, race horses, etc., being its normal diet. Its construction is simplicity itself, and it is very easy to operate. All the working parts are entirely enclosed within the case, and the workmanship is of the very finest throughout, comparable both in appearance and operation with fine watch work.

A new catalogue, describing all the B. & L. shutters, is now in preparation, and will be mailed on request.

At one time I took five American photo publications, and still take three, and in my estimation you have and always have had the best of all.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

Negative by Helen P. Gatch, Salem, Oregon.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. MAY, 1902. No. 5.

ENVIRONMENT.

In last month's article, in the course of my argument incidental reference was made to the subject of environment. Perhaps the most interesting development of the human mind in the course of the last half century has been the acceptance by it of the evolution theory, whose leading principle is that all organisms, whether vegetable or animal, must eternally strive to adapt themselves not only to a present but a possibly future environment, for, so far as conditions are concerned, nothing in this world is, but everything is about to be something else. The phrase, therefore, "adaptation to environment," is almost continually on the lips of the scientist and the teacher, and not infrequently the idea is conveyed by the business man in his terse remark about being "up to date," by which he wants his customers to understand that his goods are adapted to present physical and mental needs, and not for those of ten, twenty or a hundred years ago.

Very possibly the average photographer, whether amateur or professional, has never realized that he is doubly interested in the matter of environment, for not only is he related to it as is every individual on the face of this earth, but every time he exposes a plate he is recording some part or passing phase of it, and while he is performing such work he realizes that he must adapt himself to it if he would be perfectly successful. He has to understand the condition of light — whether it is slow or quick; whether the objects are highly actinic or nonactinic in their coloring; whether they are absolutely at rest or in movement — all these factors determine for him what stop or plate he shall use and the duration of his exposure. Unless he adapts himself to his momentary environment the result will be failure, for the environment will not adapt itself to him.

My attention during the past few weeks has been riveted, more or less, on this phrase, "adaptation of environment," and while at first glance it looked as if this expression was the last analysis of an idea, still further consideration brought it home to me that its terms were too vague to conjure up a picture in the mind of the average individual as to what it really embraced, and so I made a little effort to learn if it could not be expressed in some other way that would be more suggestive to one, and while I happened to be in this frame of mind, in the course of my reading, I ran across a sentence which solved the problem for me. Here it is: "We must learn what nature is and does, what our fellow men think and will, and unless we learn aright and act in uniformity we are inexorably punished."

Our environment, then, is of a twofold nature. One consists of nature, the other of our fellow men. The first is constant within the limits of its movement in a regular cycle. The other is a variant, whose laws of variation have not yet been definitely formulated, but the latest scientific researches suggest that it is as much under the influence of physical law as are the inanimate objects of nature.

Self preservation demands that we learn what nature is and does. For instance, we have learned in the northern zone of this country that nature in midwinter is frequently exceedingly cold; so cold, in fact, that the average human being would be frozen to death unless during the warm season he provided himself with suitable shelter, clothing and food, and he is therefore compelled to adapt himself to this environment. But we could suppose that a native of India transported in summer weather to this clime would fail to realize how rigorous the winter season would be, and would be apt to believe that the month of January would be very similar to what he had been accustomed to in the land of his birth, and make no suitable protection for the period of cold weather, with the natural consequence that in all probability he would suffer extremely, and very probably be frozen to death. His ignorance of his environment would result in his extinction. From this simple illustration we can derive a great lesson, how essential it is for us to learn all our life long every detail of nature's facts and laws that concerns us in order that we may fit ourselves to live in harmony with them.

It is a little hard for us to realize what our fellow men think and will, but it is also a part of our environment, and demands as much consideration as does nature. I may illustrate this point by a little personal experience of my own, which to the outsider may have an amusing aspect. I can not sing. I believe I can not sing, but I do not know that I can not sing. However, my fellow men think I can not sing, and they will that I shall not sing — at least in their presence. On three occasions I saw fit to join a singing class, and on every occasion the class leader and my fellow members made such cruel remarks about my attempts, and hurt my feelings so badly that I was forced to forever afterward hold my peace. My ignorance of what my fellow men thought and willed brought on me inexorable punishment, and so it does to every one. I have no doubt that in this instance my fellow men were perfectly justified in their actions, but in the history of the human race erroneous ideas have held sway over all men's minds, and they insisted that everybody should act in conformity with these ideas, whether they were right or wrong, for at the time they were considered to be right, and reasoning from past experiences we must believe that many of the ideas that are commonly held to-day are just as erroneous as many of those held in the past, and which were ultimately proved to be absolutely wrong. As a matter of fact, we human beings do what is right simply because our ancestors experimented with every possible way of doing things wrongly, and we now do things right because it is the only possible way left to us.

During the past ten years we have had a very remarkable development in personal environment, in the extraordinary concentration of capital, which is popularly known as the formation of trusts. This resulted very largely as the outcome of natural laws bearing on commerce, but also as the result of men thinking and willing. Our captains of industry thought that by combining forces they would be able to eliminate a vast amount of economic waste in the production of commodities, and they willed that such should be done. Many individuals were unable to realize the character of this change in environment and refused to adapt themselves to the new conditions, and the very natural consequence was that they were inexorably punished; but it is not to be supposed that the limit has been reached, and we can only anticipate that the ten years ahead of us will see economic changes even greater than the decade that has just passed, and that this policy of concentration will advance into the field of distribution just as rapidly and as thoroughly as it has in the field of production. And one and all of us will be compelled to learn what our fellow men think and will in this phase of our industry, and adapt ourselves accordingly or receive the inevitable punishment.

In a vague way the professional photographer has appreciated the factor of personal environment, for, as a business man, he is compelled to supply his customers with what they want, and not infrequently they prefer a class of goods very much inferior to what he would prefer to give them. On the other hand, he is a factor in their mental development, and it is his business, while supplying them with what they want, to educate their taste that they may demand a higher grade of goods than at present satisfies their desires. The amateur is in the happy position of pleasing himself; nevertheless, he is also very much the creature of environment, and by a simple mental process, well known to psychologists, he is influenced by the thought current in his environment and is apt to produce the kind of photography that is considered first-class in the community with which he is associated.

As a social factor, the practice of amateur photography can be made second to none in the moral, mental and economic advancement of the race. One of the most interesting facts discovered by the sociologist is that play or pleasure is one of the greatest factors in the advancement of the human race, and they have demonstrated beyond dispute that before any class of the community can be put on the road to advancement they must learn that their pleasures must cease to be individual in their character and become socialized. That is, the individual members of this class must stop having their fun alone — private drinking is an illustration of this — and take it, that is, the pleasure, not the drink, as members of a group; for instance, in a club, whether social or athletic, and thus learn the principles of coöperation and toleration. The logical outcome of this scientific fact, therefore, is that the amateur photographer who has in him anything of the spirit of patriotism, and who is willing to inconvenience himself a little for the good of his country and community, ought to associate himself as much as possible with others in the pursuit of his pleasure, and that when he follows it alone he is really, though unintentionally, working an injury to his fellow creatures and to himself.

F. Dundas Todd.

Neg. by Sara W. Holm, Sedalia, Mo.

PICTORIAL COMPETITION No. 47.

In former snow picture competitions we have had a very much larger number of prints submitted than were sent in this year, but the average quality was very much better than anything we have had in the past. The really poor print was conspicuous by its absence, which is, to my mind, a very instructive fact, as in the early days of the competitions about eighty per cent of the pictures might readily be classified as rubbish. This does not indicate that bad prints are no longer made, but it rather demonstrates that the average amateur has become sufficiently educated to know good work from bad, for the mere fact that a print is submitted to a competition indicates conclusively that the individual believes it to be of rather high quality, otherwise it would not be sent in. The schoolmaster has been abroad for quite a number of years, and the results of his efforts are now becoming visible.

The judging this month proved to be the warmest thing of the kind that has occurred in our experience, and after considerable debate and discussion among themselves, the jury made the following awards:

First prize—F. C. Baker, 522 Hickox building, Cleveland, Ohio.

Second prize—J. H. Field, Berlin, Wisconsin.

Third prize—J. H. Forsyth, Jr., 2371 West Ontario street, Chicago.

The artistic war waged around Mr. Baker's print, and opinion was evenly divided as to whether it ought to be placed first or thrown out entirely. One group held that it was easily the best picture submitted, while another insisted that it should not be in the prize list at all. Its merits were discussed pro and con, and one of the judges remarked that when held in the hand it was really nothing at all. Another retorted, "Why hold it in your hand; put it on the wall, where it belongs, and you will have to admit that, as a representation of an evening winter scene, it is practically perfect." This settled the question, and the objectors agreed that it be placed in the first rank. I have been especially careful to state the working of the jury's mind this month, in order to head off the hundreds of letters that I would ordinarily receive, asking why this print was awarded first prize, and hope my readers clearly understand the secret of its success. I regret exceedingly that in all probability its beauties will suffer very much in the hands of the engraver, but before any of the readers of the journal begin to criticize it adversely I would request them to view the reproduction from a distance and see if it does not render the effect of a winter evening better than could be done by a sharp, clearly defined print. I would draw particular attention to the beautiful line made by the roadway, which leads one's eye up to the building and, by an easy transition, into the sky beyond, this line showing the beautiful "S" form an artist so much loves to see.

The plan of composition in the second prize picture is very different, being made up largely of perpendicular and horizontal lines. There are three decided spaces in this picture, consisting of roadway, sky and clump of trees, all different in size and varying in outline, and all knit together by their corners meeting in the clump of bush in the distance. The sky is broken up by means of this bush into two minor parts. The roadway is divided by the path through the snow into two main divisions, while the shadows subdivide these into many smaller ones. The clump of trees and the fence rail perform the same useful office for the little space in the top right corner. The light and shade effect is very pleasing, and the subtle blending produces very agreeable tone values.

The third prize is composed of very simple material, but is an excellent piece of decoration. Four spaces here are evident: the running water, the two banks and the sky, and my readers will find it interesting to note the variety in the shapes of these spaces, and how simply they are broken up into minor ones by the clumps of bushes and the reflections in the water. I have frequently said that reflections in themselves are valueless in a picture, and are only useful when they are utilized to break up the water surface into pictorial masses. F. DUNDAS TODD.

PARTICULARS OF WINNING PICTURES.

First prize — Made from three negatives, all on Seed's 27 plates, the foreground being made in February in the early afternoon, exposure two seconds; the distance in March, 2 P.M., one second exposure; the sky from a third negative. It is printed on glossy paper, name not given.

Second prize—Made on Cramer slow isochromatic plate, with E. W. N. backing, with open aperture, using single combination of rectilinear lens; exposed about the middle of February at 8:30 A.M., ¼ second exposure. Printed on W. & C. platinotype paper.

Third prize — Made February, 1902, on Stanley 50 plate, in dull light, at 3 P.M., with f-11 stop; exposure 1-20 second. Printed on Velox paper.

FUTURE COMPETITIONS.

Competition No. 49 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 50 — Domestic animals. Closes June 30.

Competition No. 51 — Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 52 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 53. — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying, a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

Neg. by H. B. Semmelmeyer, Chicago.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

The Photo-Beacon "Exposure Tables" are guaranteed to be correct. Price, 25 cents.

A SUGGESTION.

Mr. F. Dundas Todd, Chicago, Ill.:

Mr. Martin was right last February when he wrote, "a nice, clean sheet of paper is very enticing." I have just picked up a block of copy paper, and of course fell into the habit of scribbling easily, as I have practiced it in connection with other exercises for bread-and-butter prizes for a considerable time.

"Photographic Sociology," in the February number, struck a big nail head a fair blow, and it is "up to" the author to get in another whack. Why not open a department in THE PHOTO-BEACON on that line? There are a great many of us amateurs who are not only making pictures of various degrees of goodness and the reverse, but are "monkeying" with paper, plates and chemicals for the same reason a small boy breaks in his drumhead — to see what there is in it. Some of us are sure to find out matters of interest, if it is nothing more than that picric acid, used in staining a ray screen, forms a very sensitive and powerful explosive when properly combined with potash. The friends of the casual discoverer would be interested to know of his sudden loss of feeling for photography and other mundane affairs. Fun aside, I think such a department would be a help to the fraternity, and would make the name of THE PHOTO-BEACON shine among the comrades of the silver bromide circle. There must be some valuable, queer and striking experiments that scientific handbooks take no note of, which would make good reading and perhaps, like the steps in Bunker Hill monument, lead to higher things.

Make it a question and experience department, and invite the other Beacon lights and livers to tell what they know.

Mr. Boursault's articles on "The Developer" are just what I wanted, and Mr. Martin, I think, will lead me into more chemical experiments, for which I always had a liking. When a schoolboy I got myself blown up in hydrogen-oxygen gas explosions twice; made iodide of imidogen and then laid awake nights thinking how to throw it away with safety to the community; got choked with chlorine, burned by acid innumerable times, and gained a very practical knowledge of a few things while doing so. I am still stirring up messes and spoiling clothes, but learning something occasionally. Photography and I were introduced years ago, when both were callow youths, but like the ex-clergyman, I "hadn't worked at it much," until I bought a camera, a good second-hand affair, which soon led me on to a more efficient outfit, and now I am ambitious for even more in that line. I hunted for knowledge, too, but found little except what was interred in a cemetery of technicalities, until I discovered THE PHOTO-BEACON at my news-dealers. That talked United States and said things so well I have been after it ever since. There were three other photo magazines I had made attempts to get succor from, but two were respectively a priest and a Levite, and the third had such a "knowier than thou" attitude that I concluded I would never reach within focusing distance of its powerful mentality, and so sheered off.

There, I have reached the end of the run for this train of thought, and will put on the brakes, wishing THE PHOTO-BEACON all the success I feel that it deserves. Yours truly,

CHARLES MONROE DOTEN.

IOWA CONVENTION.

The Photographers' Association of Iowa will hold their convention on May 20, 21, 22 and 23. Mr. Vanderpoel, of the Chicago Art Institute, will give talks on art matters. Full particulars about prize list can be secured on application to the secretary, W. C. Edinger, Des Moines, Iowa.

KENTUCKY AND TENNESSEE CONVENTION.

The Photographers' Association of Kentucky and Tennessee will hold their second annual convention at the Music Hall, Louisville, Kentucky, on June 17, 18 and 19. Full particulars on application to the secretary, J. L. Cussick, Louisville, Kentucky.

PICTORIAL PHOTOGRAPHY.*

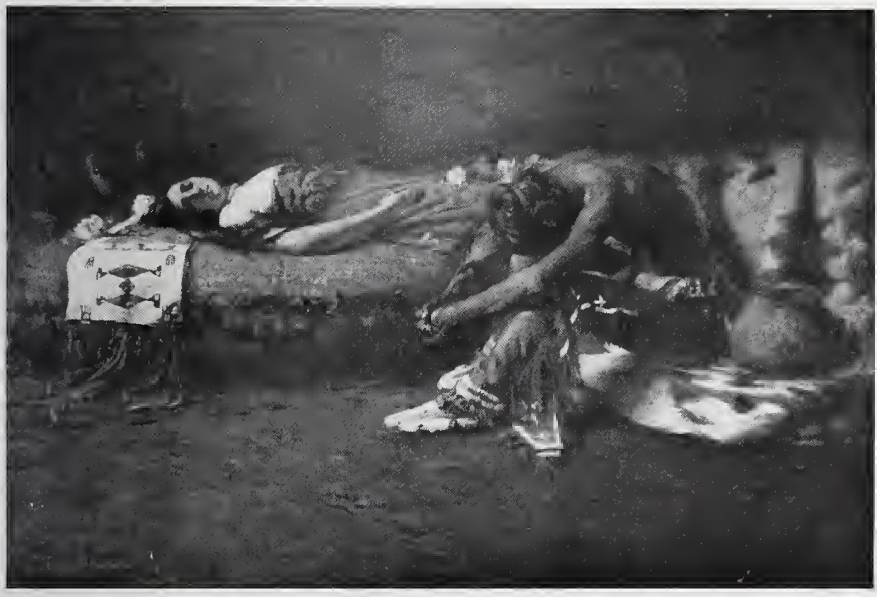
BY LUCIUS W. HITCHCOCK.

CHAPTER V.

THE USE OF ACCESSORIES WITH ONE OR MORE FIGURES.— *Continued.*

Before I take up the subject of lighting, I wish to devote more time to the elements of composition I have already spoken of, in order that one, by seeing several examples, will thoroughly understand the principles under discussion. The eye must be led in the path of a curve as it is drawn to the main point of interest, or from one point of interest to another.

In placing two figures together under the best of conditions, accessories will be found useful to fill out and beautify the line, but sometimes they are indispensable. It often happens from the very nature of your subject you will have one figure running abruptly into another at right angles. Then it becomes necessary to so manipulate your accessories that this abruptness will be softened. For example, take my painting of Atala, published with this issue. An arrangement of this sort would be perfectly practical in photography, and would give none of that photographers' perspective that is so difficult to handle in photographic compositions of more than one figure. We have two figures in a rectangular space. The dead woman stretched on a rough couch, with Indian trappings, suggested a flat picture, so this shape was decided upon. Now I want to call your attention to the way the accessories were manipulated to weave a curved line into the arrangement of this horizontal figure, and the other perpendicular one crossing it at right angles. Atala is the story of an Indian brave who mourns for his dead mistress. First of all his position must express grief. A keen appreciation of what is dramatic will go a long way toward making a picture interesting. To accomplish this I felt that I must bow my figure down. Make a point of this. You must express a mental action by a physical one, a very vital quality in any genre subject, and something for which even correct arrangement other-



"ATALA."

From a painting by Lucius Hitchcock.

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*Copyright, 1902, by F. Dundas Todd.

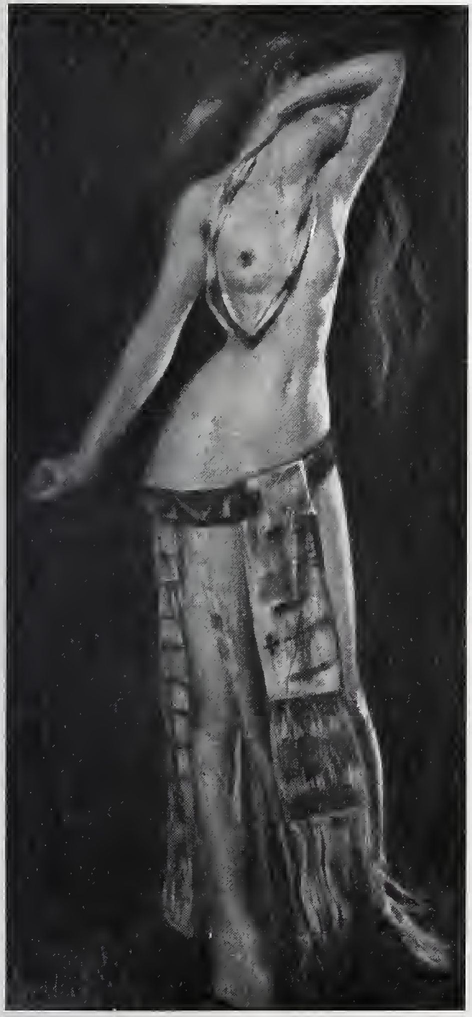
wise will not entirely recompense. In any case the beautiful curve of his back came less abruptly into the horizontal figure. I carried his arms forward with clenched hands for a double purpose. First of all it continued the line of his back, deflecting it and bringing it down into the center of the picture where it belonged. The clenched fingers denote the disturbed condition of the mind, without which it might seem that he was sleeping, but, as it is, he is mourning. The figure is at once graceful and dramatic. The face being softened and almost lost in the shadow makes his suffering more of a mystery. The fingers are suggestive enough, and give one's imagination a chance. This matter of making photographs more suggestive and less realistic is a big one, and something I will take up later on in a paper by itself.

The legs took care of themselves when I thrust one a little forward of the other. The posing of the Indian was comparatively easy, but I had no end of trouble to get the lines of the dead woman to flow gracefully into it. She was laid out dead; no turning or twisting of the body would be logical or consistent with the story, consequently it could not be thought of. I had a perfectly straight line running abruptly into a curve, and my task was to so place the accessories around this figure that the abruptness would be softened, and the lines of the woman's figure flow rhythmically into the already graceful lines of the Indian. First I deflected the lines of the drapery both ways, raising the hand and arm up against the hip. This started pleasant lines diagonally across the body that seemed quite in harmony with the curve of the Indian's back, but the line across the top of the woman's drapery still came very abruptly into the curve of the other figure. I worked with this little matter a long time and finally hit upon the use of flowers. They look as though they had been very carelessly thrown down, but the placing of these four magnolias, with their detached petals, took more time and was changed oftener than any other part of the picture.

This was the key to the composition; it was the connecting point of the dominant lines of one figure with those of the other, and this break in the curve between the end of the woman's arm and the top of the Indian's shoulder was very distressing. The flowers, with their varied spacing, filled out and completed this beautiful curve started by the Indian's back and carried out into the woman's figure. The woman's hair drawn across the arm above the elbow carries the line over to the face, and the magnolia blossoms in her hair and on the couch give it a final turn toward the front. Notice how the folds in the blanket are placed behind the Indian to give a pleasing variety of spaces, and the low ledges or cracks in the rock floor are so arranged that they carry out the beautiful lines of the group. The fringe on the Indian's trappings, laid across the head of the couch, was placed with a great deal of care. They were pulled decidedly to the left to balance the lines of the low branch upon which the Indian is sitting. One must bear in mind that the smallest thing is of importance. I have changed the accessories of this composition many times, and no one knows more than I how difficult the photographer's task is. He must see at a glance, and have everything arranged before the picture is taken.

In the figure of "Winona," published in this issue, we have a good illustration of the use of accessories on a single nude figure — how to place them so as to enhance the already graceful lines of the figure. I think the graceful "S" line described by the whole figure, from the head to the feet, is too apparent to need any comment from me, but I shall point out that the trappings used here as accessories not only give the figure a distinct Indian character, but are in harmony with and add something to the graceful sweep of the pose.

The hair is slightly the darkest note in the picture, making a pleasant accent with the side light on the breast and centering on the upper part — the main point of interest. The hair carried out to the right in easy curves accents the outward sweep of the torso, and by the introduction of this line of the hair at



"WINONA."

From a painting by Lucius Hitchcock.

this point, the "S" line is made far richer. The necklace occurs lower down and swings the line in the opposite direction, carrying the eye over to the beautiful curve of the hip. Here the line is enriched by the hand and arm that serves very much the same purpose as the hair does on the opposite side higher up. The line is now carried down to the feet and this general sweep to the right is exaggerated by the breezy movement in the drapery or Indian trapping hung from the belt. Remember that whatever you put on a figure must be done with great care. A beautiful pose can be completely ruined by the misuse of accessories, and very often a commonplace one, by clever manipulation, can be made quite distinguished.

Remember, also, the smallest things count. It is the little things you must look after as well as the masses. On the other hand, do not use too many things. Simplicity is a sterling virtue in a picture. If possible, accomplish your results with just enough accessories to tell the story, whatever it may be, for when they have a double use they are more pleasing.

The layman is pleased because it adds another thought to the picture, never suspecting that it has been cunningly placed in just such and such a place to carry out a line or fill a space.

BACKING PLATES.

On seeing the article on "Backing Plates" in your most excellent magazine for March, I am led to tell you of the backing that I am now using. When the subject came up last year I tried all the methods suggested, but none entirely satisfied me. Then I began experimenting with every substance I could think of. The first one that satisfied me at all was practically the same as Mr. Maloney's — a back paper held on by a film of soap. But I have found a better one. It consists of water, lampblack and gum arabic. The trick lies in using gum arabic for an adhesive. I should say, for the proportions, about one-half as much gum arabic as lampblack (in bulk, not by weight). Water should then be added until the right consistency is reached. I like it to be a thick paste. It can also be dried in cakes by pouring it into molds and setting behind the stove. It is not necessary to put on a very thick coating of this backing; just enough to cover the plate evenly will be sufficient.

Hoping this will help others as much as their suggestions have helped me, and hoping that THE PHOTO-BEACON will continue to prosper, I am

Yours very truly,
EDWIN W. TILLOTSON, JR.

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

CHAPTER XVII.

CLEVELAND.

To replenish my stock of materials used in likeness work, I made occasional trips to Cleveland, and always called at Mr. Johnson's gallery in the hope of meeting the man who lived in my mind as the high standard of photography, but was never so fortunate as to find him.

On day, to my surprise, he came into my rooms at the Beebe House, in Elyria, to find me, and, as he soon advised me, to secure my services as operator and manager of his business in Cleveland. He was opening a studio in New Orleans, where he would remain through the winter, and paid me the great compliment of offering me a position to step into his Cleveland establishment to take charge; to represent him until the following spring.

I was really dazed that by so prominent a man as Mr. Johnson I could be considered competent to fill a position of such importance. I doubted my ability and candidly avowed it, but he encouraged me to believe I could fill the requirement. So, with some timidity and much pride, I accepted.

I was a very happy young man that so fortunate a happening should fall in my way. It was an advance beyond my wildest dreams, and ambitious young fellows dream pretty wildly sometimes. Now, instead of the limited facilities of outfit that I carried in a packing trunk — even though it were a large one — from village to town in my practice to this time, I was to step into an established studio, having permanent fixtures and furnishings upon a liberal scale. A city gallery, with fine accessories and surroundings. Here I would have, too, fine examples of work to study. I would be taken out of a field and transplanted into a garden of richer soil.

When I told Park I had engaged with Mr. Johnson for his Cleveland studio, and was soon to go, he, more than any other person in Elyria could understand my exultation, and rejoiced with me. This move meant promotion to him also. He would take charge of the Elyria studio and stand in a similar relation to me that I did to Mr. Johnson.

Like other beginners, having an ambition to progress, Park and I talked over the little we knew and the much we desired to learn in the daguerreotype art. I transferred as much as I could of my greater knowledge than his, and together we coveted the finish of New York, for that city seemed the vortex of all excellence. New York, we fancied, showed a smarter style of finish than any other American city, and we had the hardihood to fancy we might hope some day to come within a day's ride of New York quality.

A country tailor likes to see a Broadway coat. In the same sense a daguerreotype man may take a lesson.

Park wished to learn of me the names of the most prominent men conducting the business in the principal cities. He was desirous of visiting the noted establishments to see the best achievements of the camera in skilled hands — a common wish, but few can compass its indulgence. We would sometimes see in the hands of people from larger cities examples of work bearing a metropolitan air and smarter style. These we would carefully study. They were our chance opportunities, always welcome, our "pickings by the wayside," never to be neglected.

I was somewhat familiar with the work of some of the New York establishments, but could not make him see from my description as I could remember from having seen, but felt confident we would go together sometime and have a good look.

Coming back to the point of former question as to whom I considered the ablest picture man in New York, I said, "Well, Charley, there are many prominent daguerreotypists in that city — some in a particular way in advance of others, and it is difficult to discriminate. I think Brady stands at the head as to prominence. He has studios in New York and Washington. He has taken portraits of more public and prominent people than any of his rivals. Presidents, senators, governors, congressmen, ambassadors, statesmen of all degrees, notables of all countries have sat to him. He has made a point of securing portraits of notables, and has the largest collection extant. His name is synonymous with photography. Fredericks, too, is prominent. He has the most imposing of the New York establishments. He has also a fine establishment in Havana, Cuba, and divides his time between the two cities. He has brought from Paris some fine artists for finishing portraits in oils and pastels. He has a large business.

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*Copyright, 1901, by James F. Ryder.

"Gurney is also a prominent figure in New York as a photographer. He has made a great success.

"Bogardus, Plum, Lawrence, Root Brothers, of New York and Philadelphia; Meade Brothers, of New York and Albany, are all prominent for ability and have made marks for themselves."

"Well, who are the best in Boston," continued Park.

I replied: "As to saying who is best I can hardly venture to say. The names of Whipple, Black, Southworth and Marshall stand prominent."

"Now give us Philadelphia," says Park.

"M. A. Root, Broadburt, McClees and Germon, I have heard, are most prominent.

"Baltimore — Whitehurst, who has also a branch in Washington.

"Cincinnati — Fontayne & Porter, Faris, Hawkins.

"Chicago — Fassett, Cook, Hessler, Shaw.

"St. Louis — Cramer, Scholten, Fox.

"Buffalo—Evans and Rowelson, and that, Charley, is about the extent of notables as far as I know."

He carefully wrote in a memorandum book the names of the cities and men for future reference.

On going to Cleveland to familiarize myself with the place and its workings, I felt like an overgrown boy entering a strange school. I met there John Killerbine, a German boy of eighteen, who had been assistant to Mr. Johnson four years and was, for a boy, quite proficient. I saw readily from John's

Negative by A. H. Mowry, Ashland, Ohio.

OLD FOLKS AT HOME.

From collection of Jas. F. Ryder.

mental measure of me that I was, in his estimation, just a country daguerreotype taker, and could never fill Mr. Johnson's shoes. The serious task of living that impression down was before me.

This daguerreotype establishment was located in the Merchants' Bank building, corner of Superior and Bank streets, and opposite the Weddel House, the most central location and the busiest corner in the city at that time. It was the foremost gallery and had the best patronage. My earnest efforts to please were understood and generally appreciated. A bright business man told me one day he had always noticed "molasses caught more flies than vinegar," adding, "your best capital is in your polite and genial manners; of course you'll succeed."

I knew the wisdom of his remark before he gave it to me, but his manner of saying it impressed me. I never lost sight of that excellent business rule. Many a time when I have been "sore tried" by an overexacting and what seemed an unreasonable customer, and anger rising, I have turned to the molasses and "won out."

Cleveland, at that time, with but about twenty thousand population, and holding her head pretty high as being the metropolis of northern Ohio, was, as compared with the present, 1902, with a population of four hundred thousand, simply in her swaddling clothes. There was not a paved street, or, in many places, a paved sidewalk in her corporate limits. No water supply except from dug wells and rain cisterns. The water we used in the performance of our business was carried in buckets from the canal, a distance of a quarter of a mile, which was cheerfully spanned by Killerbine, who, with a bucket in each hand, brought enough for our stoneware jar to last us a week. Nowadays a hundred gallons a day is used by each photographic establishment of any pretension.

The sand in the streets from four to six inches deep made hard pulling for horses with vehicles. Our first paving was of plank, which, as an improvement upon the sand road of Superior street, was matter of pride and rejoicing. As it wore down it took on something of an elastic condition, and the rubbing together of the edges wore spaces between, so that, after a smart rain, rapid driving where water was standing under the planks would force up the slush through the cracks as high as a horse's back.

Euclid street was then filled with residences, not very close together, and there was not a shop or store upon it. It was the road to Doan's corners, out Euclid way. Rail fences in zigzag pattern bordered the highway a part of the distance. Farms and land by the acre could be bought then, where it is now sold by the front foot and palatial houses jostle each other, vieing for supremacy in beauty and splendor. It is Euclid avenue now, and has been heard of the world over.

I was getting along. We pushed our way through the winter slowly and surely. At Christmas time we were more than usually busy in doing our share for the happy season of gifts, in which a handsomely encased likeness played a good part. Again at Easter we were well patronized.

Compare these days with later times — the light expenditures for salaries and materials, the good prices we received for our products, the ease with which we could and did take from $10 to $20 and even $50 per day, one man and one boy, all the work of the day finished and delivered — the cash for same in the safe, as a rule. No coming back in the evening to wash or mount prints, no proofs to prepare, no varnishing, sacking up and filing away negatives. The evenings without care or work — indeed, the golden days of photography seem back forty or fifty years ago, under the name of daguerreotype.

In furtherance of its policy to broaden the scope of its magazine, the Rotograph Company has decided to change the name on the monthly it has been publishing to the *Photo Critic*, with which is incorporated the *Bromide Monthly*. They promise to make things pretty lively, and a 2-cent stamp for a sample copy will be well spent.

THE USE AND ABUSE OF THE PRIZE SYSTEM.

I once heard the vigorous expressions of an artist against the prize system in photography, and I listened quite attentively to his argument, in which he tried to point out the defects of such a system, but in spite of all my endeavors to see good in what he had to say upon the matter, I failed to do so. If we did not have this competition in *all* kinds of work, some of us would still be plodding along in the "rut of content," knowing or desiring no more than we had already obtained from our first endeavors. The most of men are very apt to become content after they have striven hard to obtain a certain desirable goal, and are very ready to consider that one time of hard striving and the fulfilment of that one desire as enough to live on and be happy over "ever afterward."

If men did not have something to push — to kick them onward after a higher goal, they would never move out of the first rut they fell into.

This is how we should look upon competition of all kinds — as a spur to push us on higher; and, to go on with the point of interest introduced at the beginning of this article, this is the good to be found in the prize system in photography.

There are, we all know, many abuses in this same system, but the main thing is good, and good for every one of us, whether amateur or professional. We each have a plenty to learn, and if the prize system and its results does not teach us some one thing we may be sure nothing will, for we are on the back track and content to stay there, too.

We are willing to concede, however, that the editors and judges abuse the system sometimes, but let us keep hard at work and we may in time teach them what they should know. In the mean-

Negative by Sara W. Holm, Sedalia, Mo.

time, as it would seem to take a long time for them to learn, can not *we* acquire a little more knowledge on the subject and perhaps correct a few mistakes which we frequently make?

For instance, suppose we study ourselves long enough to find out what style of beauty most pleases us, or if we have not much of any idea of beauty, why, cultivate one. I think every man and woman has an idea of beauty, but many are quite unconscious of its ex-

Negative by F. C. Baker, Cleveland, Ohio.

FIRST PRIZE.

istence, and many others ridicule it into silence.

Then, when we know what we like, suppose we mind our own business and go steadily to work upon this idea of beauty and encourage it to grow into the very best expression we can give of it. It will need some hard and steady work at first, because we are not in the habit of steadiness as yet, but it will surprise us to see how much we can learn and do. In fact, I should not wonder if we became so busy over it as to forget all about the faults of the prize system or any other system but the one we are employing in our work, and some fine day we may wake up to the fact that the system holds more good than otherwise. There is surely one good we shall be able to recognize — that of being dissatisfied with our work.

We all put up a great " hue and cry " when we are forced to go ahead or drop out of the line, but if we do go ahead we find a " good deal to be thankful for."

To mind one's own business and do one's own work for the very best results is, then, a sure cure of one abuse, for the prize system calls for our best work, which we quite often fail to give.

Another mistake we make is this — we do not stick to our own highest expression of beauty, but allow ridicule or the failure of convincing others of the worth of our idea to swerve us from the path we desired to tread and to make us follow in the path of another, who, at the moment appears more successful than we ourselves. True success does not come to one who follows but to the one who leads. Do not become a tintype of another, but insist upon being yourself and expressing yourself in your work. Keep insisting and sooner than you think for others will recognize you as an individual in your art and one to be respected and admired. Being extreme, however, is not being an individual of true art, for in art there are no extremes. Here, then, is another abuse cured — the presenting of one's own best idea and not a fair imitation of another's idea.

Another abuse is that of trying for too many at once (prizes, I mean); that is to say, too many for the beginning of one's work. We have too many subjects to master at first before we have acquired the habit of mastering one subject. As soon as the habit is a part of us, we can enter into the mastery of as many subjects all at one time, as we like, and be successful in each.

Perhaps the chief point of abuse that amateurs make is, they fail to lose sight of the money value to be won long enough to see the picture. They attach more importance to the money than to the creation of the beautiful. They forever keep the prize before their eyes when at their work. Every place of beauty is seen with " first-prize " posed in the foreground, and as the camera is focused upon that, very little of the beautiful can be found in the result.

Lose yourself, my dear brother, in the beauty about you, teach yourself to see the highest, grow to love it and live in in, try your very best to give a faithful expression of it, and you will have no trouble in winning *all* the first prizes, if by that time you desire them, which I doubt. H. FLORENCE OLIVER.

MOTHER AND CHILD.

I have no doubt but many readers of THE PHOTO-BEACON are aware of the fact that for almost a year I have conducted a page on photography in the Sunday issue of the Chicago *Record-Herald,* which has been exceedingly popular. In the weekly competitions, which, by the way, are open to every amateur in the country, some very fine specimens of photography have been submitted, and quite recently one was devoted to the subject of " Mother and Child." I had anticipated a rather ordinary set of prints to be submitted in this competition, but was agreeably surprised when a lot of prints far superior to anything I had ever dreamed possible was entered, and so pleased was I that I have taken the liberty of reproducing almost a dozen of the best pictures, and print them in this month's issue, believing that they will prove both suggestive and educative to my readers.

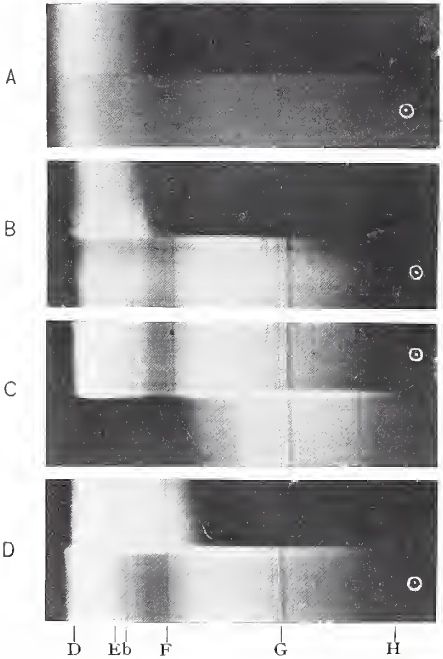
F. DUNDAS TODD.

ISOCHROMATIC PHOTOGRAPHY.*

CHAPTER IV.

ISOCHROMATISM.

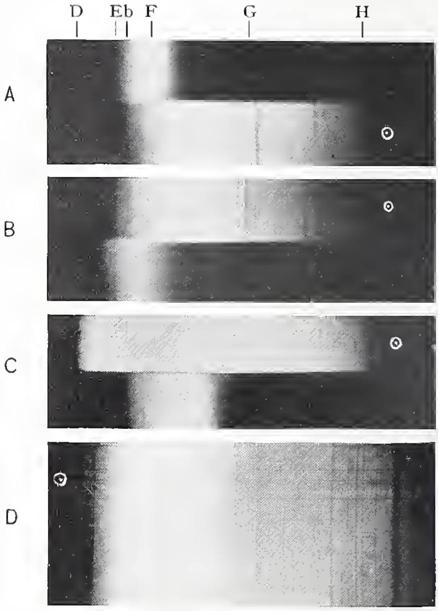
It was early discovered (Vogel, 1873) that by introducing a small quantity of dye into the emulsion (either in the process of manufacture or by later bathing), the plate so stained exercised a selective action to certain rays of the spectrum to which it had been previously insensitive. Thus, a plate which had incorporated in its substance a small quantity of eosin was found to possess a sensitiveness to the yellow-green of the spectrum in addition to the sensitiveness which, as an emulsion, it already possessed to the blue and violet. Again, the addition of a minute quantity of quinolin blue confers a special sensitiveness to the yellow orange, and part of the red, besides the original sensitiveness to blue and violet.



A—Brilliant yellow. Cramer slow iso.
B—Brilliant yellow. Cramer medium iso.
C—Cramer medium iso. Anilin blue and Fluorescein.
D—Ammonium picrate. Cramer medium iso.

FIG. 12.

Many are the dyes that have been tested and used for this purpose, but sufficient for the purpose of explanation are the two which have been mentioned above, for it is not necessary to enter into the details of manufacture, such plates being now a regular article of sale, and found on the shelves of almost every supply house. The isochromatizing of plates by the individual is a matter not to be considered, save only by the experimentalist who is desirous of obtaining a special action on a definite portion of the spectrum.



A—Acridin yellow. Seed 26 X.
B—Seed 26 X. Brilliant yellow.
C—Seed L. Ortho. Methylene blue and chrysoidin.
D—Cramer crown. Solar.

FIG. 13.

The dye stuffs which are used for this purpose are very unstable in their composition, the action of a beam of light being sufficient to bleach them somewhat, so that when the light which passes the lens falls upon the extremely minute amount present in the plate film, the molecular arrangement of the dye is disturbed, and that disturbance is communicated to the plate when under the action of a developer.

There is a law which governs this action, which runs as follows: *A plate is acted upon by the color which it ab-*

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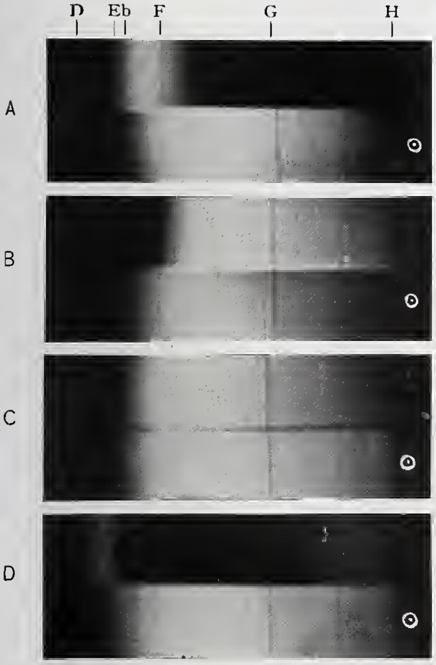
* Copyright, 1902, by F. Dundas Todd.

sorbs; for instance, eosin (a red dye) absorbs green, therefore the plate is rendered sensitive to green because that is the color which the dyed film absorbs. Quinolin blue (a blue-violet dye) absorbs yellow, orange and part of the red and green, therefore the film is sensitive to these hues. In other words, the green which would pass on through the film is held back (absorbed) by the dye, and under the influence of that absorption is compelled to perform certain work in the film, the nature of which is at present but little understood.

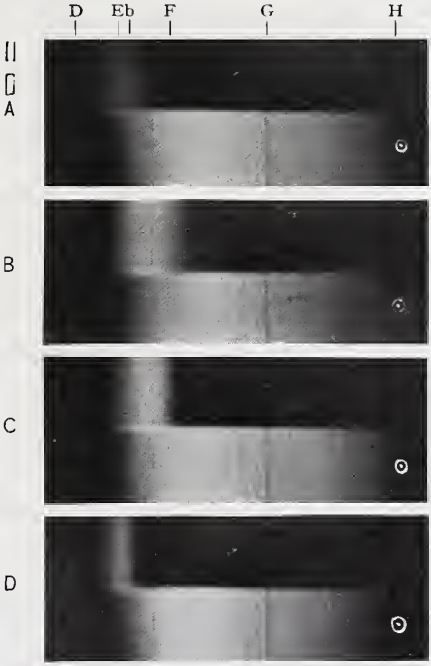


A—Methyl green and picric acid. Seed 26 X.
B—Gentian violet. Seed 26 X.
C—Cyanin. Seed 26 X.
D—Fluorescein (note action of violet). Seed 26 X.

Fig. 14.

Now, so far, the problem seems to be a very simple one indeed, but there are many difficulties yet to be overcome before color can be rendered with even the roughest approximation to correct luminosity, for, although the plate has undoubtedly been rendered sensitive to, say, green, yet its sensitiveness to the blue, violet, and ultra-violet are still unimpaired, and these hues must be reduced, dimmed down or cut off, in order that the slower sensitiveness of the other colors may get an opportunity to catch up, as it were, with those of greater rapidity. This is the sole purpose of the screen or ray filter, and the correct understanding of which is the key to intelligent use.

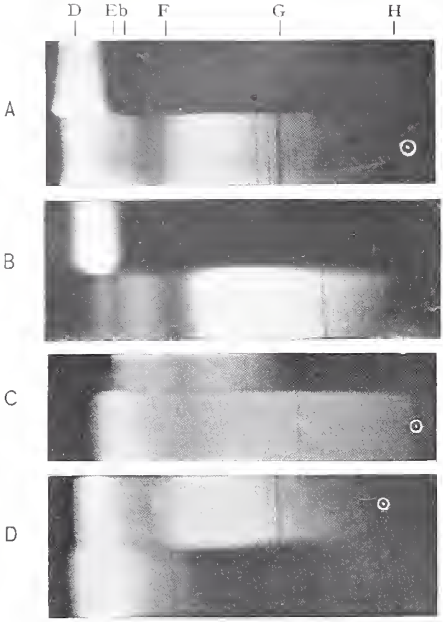
In the lower half of the first double spectrum of Fig. 12 is shown the sensitiveness of a plate stained with one of the Fluorescein derivatives, namely, Cramer Slow Iso. It will be seen that, although there is a sensitiveness to the orange red of the spectrum, yet that sensitiveness is very low compared with that to the blue and violet. This print is made very light purposely in order that this point may be apparent, for were it printed up to average strength then that orange sensitiveness would not show at all. Now you can readily see that if we desire to show color in its correct luminosity we must first cut off entirely the ultra-violet rays (which are invisible to the eye) and dim down the violet and blue so that they may be held



A—Chrysoidin. Solar spectrum Seed 26 X.
B—Iodgrun and picric acid. Seed 26 X.
C—Picric acid (saturated). Seed 26 X.
D—Auramin. Seed 26 X.

Fig. 15.

back long enough to give the green, yellow and orange a chance to impress themselves upon the plate with equal strength, and this is accomplished by the use of a yellow screen, for, as we have previously seen, yellow cuts off or dims down these colors, according to the strength of the color.

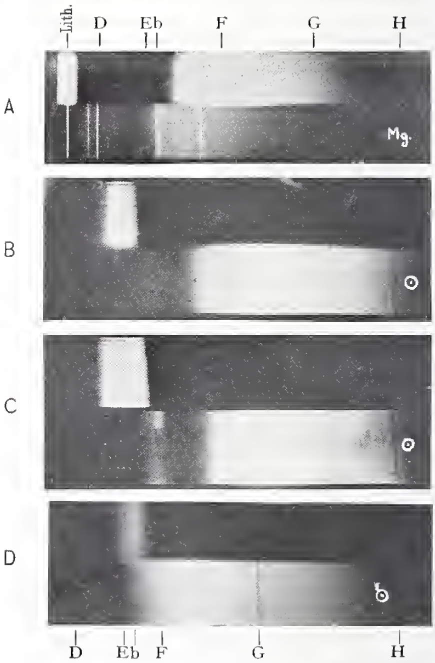


A—Carotin. Cramer Med. iso.
B—Eosin bluish and picric acid. "Erythro" solar.
C—Nile blue and Auramin. Cramer inst. iso.
D—Cramer inst. iso. Light green F. S.

FIG. 16.

Thus we learn why an isochromatic plate and yellow screen render it possible to secure whatever cloud effect may be in the view photographed — simply that the blue of the sky is dimmed or slowed, while the white of the cloud (of higher luminosity) passes through unabsorbed.

It is most erroneously supposed by the general mass of photographers that any ray filter or yellow screen is suitable for use with any iso, or ortho plate, but this is not so. Take the illustration shown in the last double spectrum of Fig. 12, which is representative of this class of plate, namely, Cramer instantaneous isochromatic, and it will be seen that although the use of a yellow screen is beneficial, yet it is only partly so. True, we can, by its means, cut off the blue-violet and ultra-violet, but the work is only half done; the plate is still sensitive to the yellow-green and blue to an abnormal degree compared with the blue-green, yellow and orange, and sufficient action will take place upon the plate to give a fully exposed negative by the action of those rays alone, long before that blue-green (of which the greater part of a landscape is composed) begins to impress itself. The remedy is very obvious, for if we introduce a colored filter to dim down the too strong action of the blue-violet then we must introduce another to dim down the yellow green. In other words, *a ray filter must be adjusted to the plate with which it is intended to be used,* so that a filter adjusted for the plate now under consideration should not be yellow only, but a mixture of yellow and crimson in proper proportion, as it is the crimson which acts upon the yellow-green.

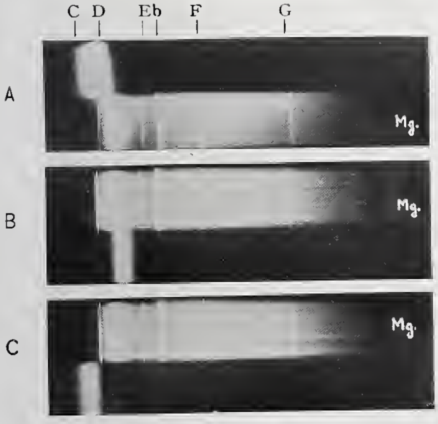


A—Ethyl violet. Seed 26 X (cyanin stained).
B—Fast scarlet and picric acid. "Erythro."
C—Eosin and naphthol yellow. Lumiere panchromatic.
D—Aurantia. Seed 26 X.

FIG. 17.

Some isochromatic plates have their strongest action in the yellow, and for such a plate a perfectly adjusted filter would be a mixture of yellow and blue, the latter dimming down the yellow. Of course such a screening down of the colors means a lengthened exposure, but this is amply made up for in superior effects, the resultant tones being more in harmony with one another.

It may be interesting to note that the firm of Cadett & Neall, of England, now manufacture a light filter and "safe light" specially adjusted to their plate. In fact, they manufacture two light filters, which they name, respectively, the "Gilvus" and the "Absolutus," and give specific instructions for their use, plainly saying that the former (the Gilvus) is merely a makeshift, as it were, to be used when the object is speed, but also stating that for correct work there can be no change from the "Absolutus." Carbutt, in this country, has a specially designed "safe light" for his polychromatic plate, also adjusted ray filters for use with it.



A—Chinolin red and picric acid. Carbutt ortho.
B—Seed L. ortho. Naphthol green.
C—Seed L. ortho. Naphthol green and erythrosin.

Fig. 18.

In spectrum work there is still another plan for obtaining stationary lines or markers than by the use of the solar spectrum. Each metal has its own particular spectrum, which is distinguishable from another by the number and position of its lines. So when a metal is burned before the slit of the spectroscope, those lines which compose its spectrum stand out as luminous bands. It is sufficient to state that these luminous lines are just as immovable as are the dark Fraunhofer lines in the sun spectra — in fact, the two are identical, only they are observed under different conditions.

The power to obtain bright lines at any time is very useful, for, as in the case of Fig. 15, they are shown by the simple method of burning a few inches of magnesium ribbon in front of the slit. In this case the magnesium had been previously moistened with dilute hydrochloric acid, and dipped in lithium chloride, thus giving in addition the splendid lithium line between B and C.

The number of dye stuffs which can be used for special purposes are very many, and from hundreds I select a few in Figs. 14, 15 and 16, which will serve to show their values and screening action when used as filters for special purposes. In all cases, as may be seen, the unscreened spectrum of plate sensitiveness is indicated by the solar sign — a circle with a dot in the center.

R. James Wallace.

Dear Sir,— I started out last fall with a secondhand camera and a copy of your "First Step in Photography," and also the "Photo-Beacon Exposure Tables," first with the camera alone, and I soon found out that any old jay could set the tripod straight and press the bulb, but with an exposure table I could get something that would show me where I had spent a pleasant day tramping the woods, and would recommend the exposure tables to every one, especially to a blind one like I was when I first started.

E. H. Reynolds.

The Mohawk Pocket Tripod advertised in this issue is a mighty convenient instrument, and is especially valuable for at-home work, such as flash-lights, interiors and copying. It can not be knocked over by the swish of a lady's skirts, and is therefore good insurance.

PHOTOGRAPHERS ASSOCIATION OF AMERICA.

THE PREPARATIONS FOR THE NATIONAL CONVENTION PROGRESSING RAPIDLY.

It will, no doubt, interest the fraternity to know something of the policy of the present administration of the National Association, and I have been urged to outline our position, especially in regard to the educational features.

Negative by Helen P. Gatch, Salem, Oregon.

To be completely successful, a convention must not only have a good exhibit by photographers and manufacturers, but it must, in its business meetings, supply something that will be of practical benefit to photographers. Practical is just what we are striving to make the convention this year.

The abolition of prizes meets with the approval of the largest number of photographers who attend conventions, simply because it was demonstrated last year at the national, and has been demonstrated in the New England Association for three years, that it is the way to meet and learn, without the strife and contentions that have characterized conventions in the past. These conditions are unavoidable where medals are to be awarded.

The promiscuous manner in which

medals have been handed out by the national and State associations for the different kinds of work has caused such a depreciation in their value that it is no longer considered such an honor to win as in the earlier days of associations.

The argument will be raised by some photographers that the medal will assist them in advertising their business and increasing trade. To these photographers we have only to say that a more permanent increase can be made to their business by studying and learning how to make better pictures. More can be learned by intelligently studying others' work and comparing it with your own, than by winning a prize for the purpose of advertising.

THERE IS NO BETTER MEDIUM FOR ADVERTISING A PHOTOGRAPHER THAN GOOD WORK.

Negative by J. S. Booth, Chicago.

To make the meetings of assistance to the workers in the craft we will have practical talks by photographers and artists, who will show how to put art and good business methods into everyday work.

Demonstrations of printing papers will be given each day by the manufacturers. On the second day there will be no meetings, as it has been set apart and will be called "Manufacturers' and Dealers' day." There will be no business meeting to attend, and this will give photographers a splendid opportunity to thoroughly examine the materials and apparatus on exhibition.

The souvenir will be mailed one month before the convention, and will contain a list of all members. The railway rates, etc., will appear in a letter from the secretary. We intend to make the convention so practical that you will feel well repaid for sending an exhibit and attending. Sincerely,

GEORGE M. EDMONDSON,
President P. A. of A.

THE FERROTYPE PLATE.

From the various complaints which I have heard and read, it would seem that many amateurs have found difficulty in manipulating the ferrotype plate. While I do not pretend to be even an amateur photographer (having been very unsuccessful in the first steps of photography, namely, the obtaining of a good negative), yet I have always been very fortunate in printing and finishing pictures from the negatives of others.

My most extensive experience in the finishing line has been with glacé finished photos, and I have never yet found a time when the ferrotype plate failed me. To my mind in lieu of the disastrous results which I learn have attended the efforts of many others who have striven for similar results, this seems peculiar, inasmuch as I have taken no extra precautions to avert any unsatisfactory results, and my system of manipulation has been the most simple. I fear many are over-anxious to see the results of their labors and hence do not allow the plate and picture the proper time to ac-

Negative by J. H. Field, Berlin, Wis.

SECOND PRIZE.

complish their part of the work. They doubtless have attempted to hurry things along by the use of a knife or other sharp instrument, and in thus releasing the paper from the plate, have not only scratched the plate (thus making it unfit for further use) but have also spoiled the picture.

I think one of the most important factors in the accomplishment of good photography is the exercise of that virtue *patience,* and the man who is unwilling to practice it had best leave photography alone.

My first step in using a ferrotype plate is to assure myself that it is in proper working order, namely, that its surface is clean and unmarred. Should I find that it is even slightly dusty I take a damp cloth and wipe it carefully and then dry and polish with a soft cloth that is free from lint. I then place the paper on the plate (of course face down) and rub my fingers over lightly to remove air bubbles, and then use the squeegee roller to finish this operation. When I have arranged in like manner on the plate as many pictures as it will conveniently hold, I place it in the sun, or, if the day be cloudy, I put it on the extreme end of the kitchen range, where I allow it to stay without disturbance until each picture becomes loose and rolls off the plate.

But perhaps some one would inquire: "What do you do when the plate is scratched"? Alas! I am not a plate doctor; some one else must prescribe the remedy. I can only answer — I never allow my plate to become unfitted for use. I handle it as carefully as my negatives, and when through using always polish the surface and place a large sheet of tissue paper over it before placing it away for further use. I am now using two plates which have been used constantly for at least six months and which are now as good as new.

It has been well said it is the little things in life which count; so I have found in photography it is the care and attention given, even to the minutest details, which brings forth the results that so many strive for, but so few attain.

E. J. S.

POTASSIUM-AMMONIUM CHROMATE

In the November issue of the *Bulletin de la Societe Francaise* E. Kopp describes the production of the above new salt and its uses in photography.

Chemically pure potassium bichromate is placed in a stoppered glass flask, and liquor ammoniæ fort. .880 added, with constant shaking, till the mixture smells strongly of ammonia. The flask is then corked and placed in a water bath till the bichromate is completely dissolved and a yellow solution obtained, which should be allowed to cool. When cold, a good crop of needle-shaped crystals of a pale straw color will be found at the bottom, which must be dried in an exciscator. The new salt, according to Kopp, has the formula $KO, CrO^3 + NH^3, HO, CrO^3$. If the crystals are heated or exposed to the air they gradually lose the ammonia, and bichromate of potash is left; if a solution of the salt is also heated the same thing happens.

The most important feature of the new salt is that it exerts no decomposing or oxidizing action when in contact with organic substances, such as gelatin, dextrin, gum, etc., when not exposed to the light.

It is therefore possible to coat paper with a fairly concentrated solution of this salt, and to keep it for a long time without any change. If paper thus prepared is printed under a negative, a vigorous brown image on a lemon-yellow ground is obtained, and it is only necessary to wash the print in plain water or in faintly acidulated water till the whites are pure, and the result will be a permanent brown picture.

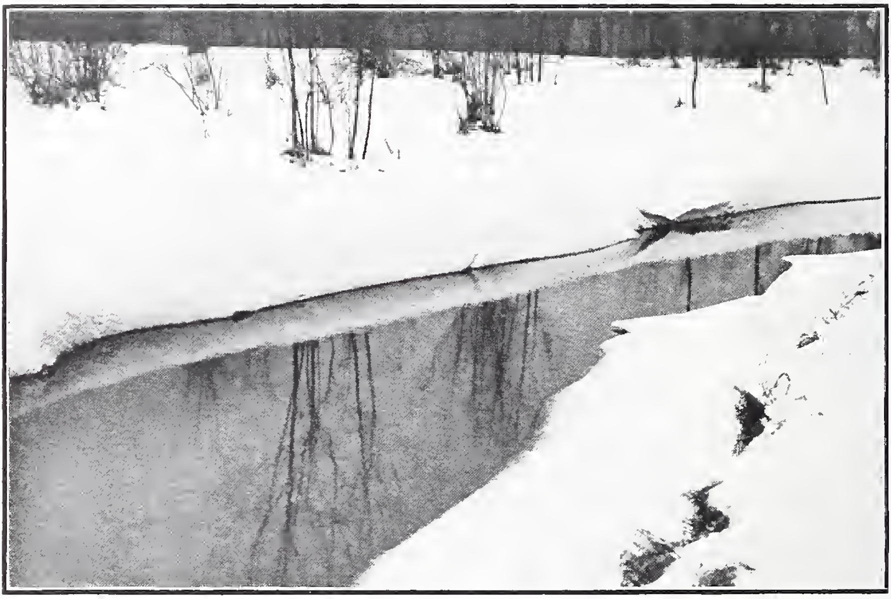
If the washing is continued the image becomes a pale green. The chemical processes involved may be thus explained: Light acts the same as heat, and in the presence of organic matter sets free the ammonia from the double salt, which then becomes acid by the formation of chromic acid, which is reduced by the organic matter to chromate or chromic oxide. If the washing is continued this chromate is reduced to chromium oxyhydrate, which is a pale greenish color.

Both the green and brown images thus obtained may be the starting points for some interesting printing processes, as the one may be changed chemically and the other form a species of mordant for various vegetable coloring matters.

If the brown images, obtained as above described, be treated with a weak solution of silver nitrate, dark-red silver chromate is formed. Mercuric nitrate gives a brownish red image, while nitrate of lead gives a bright yellow image. By treating the silver and lead images with an alkaline sulphide, black prints result, while a weak solution of sodium thiosulphate (hypo) will convert the mercury image into a brownish black.

The pale greenish image obtained by continued washing of the brown chromate image forms the starting point of another series of images. The conversion of the brown into the green image may be hastened by immersion of the paper in a warm and weak solution of an alkaline carbonate and then thoroughly washing. If a print thus treated be laid in a warm decoction of Pernambuco, Brazil or Campeche wood, the chromium oxyhydrate acts as a mordant, and the coloring matter of the wood is deposited on the image, but, unfortunately, also on the high lights of the picture, but it can be readily removed thence by a weak solution of chloride of lime. According to Kopp, alizarin and purpurin should act in a similar way.

Another property possessed by the chromate of chromium image is that it will oxidize such substances as will, when oxidized, give insoluble precipitates. Such substances are the aniline and naphthalin derivatives, and especially the ferric salts. If the chromate image is immersed in a dilute neutral solution of ferric chloride, oxide of iron will be precipitated upon the image, and if it be well washed and then treated will gallic acid solution the image will turn a rich blue-black. Another process is to coat paper with a mixture of yellow prussiate of potash, ammonium chloride and potassium ammonium chromate, and expose to light under a negative, and then treat with neutral ferric chloride, when a very pleasant tone will be obtained.—*Brit. Jour. of Photog.*



Negative by J. H. Forsyth, Jr., Chicago.

THIRD PRIZE.

LETTERS TO THE EDITOR.

WAUKESHA, WIS., February 20, 1902.
F. Dundas Todd, Esq.:

DEAR SIR,—May I take a little of your valuable space to state the other side of the case propounded by Mr. Pumphrey in his article "Economy for Beginners"?

Mr. Pumphrey's panacea for the "expense evil" is the making of one's own solutions for developing, toning, etc. Now while in theory I believe it would be a great educational factor to make our own cameras, sensitize our own plates and prepare our own paper, in practice I prefer to delegate that work to those who have made a life study of it. In this day and age life is too short and swift a thing to be constantly reverting to first principles. This is an age of specialization — yes, of specialized specialization; then why not let those who, by their position are best able to supply our needs, do so?

Mr. Pumphrey says because it is too expensive! I really think that ninety-eight per cent of amateurs whose time is a marketable commodity, and who are satisfied only with good work, will find themselves money in pocket by buying their chemicals ready prepared of some reputable house. Certainly such chemicals will cost more. Pure chemicals are expensive, and so are brains, and both have been used in putting up the preparations. If you prepare your own you may find it very difficult to get pure chemicals — the other element being ever so abundant.

If the beginner, who has troubles enough of his own under the most favorable conditions, attempts making his own developer, for instance, and gets hold of impure chemicals, he will not know whether to blame the plates, the developer, or his own lack of experience; the upshot being he is disgusted where he should be delighted, and feels that photography is a very unsatisfying hobby.

No, it may be economy for those well skilled in photography to prepare their own solutions — though if their time is valuable, I doubt it, but for the beginner I should say it was the sheerest "penny wise and pound foolish" wastefulness to do so. The neophyte can always take this as an axiom: given apparatus, plates and ready-prepared chemicals of some one of the dozens of first-class firms there are in this country, and he need furnish but two elements to get the best of results — brains and experience.

Truly yours,
ARTHUR J. CRAMP.

ST. LOUIS, February 21, 1902.
Editor of THE PHOTO-BEACON:

In the February issue of THE PHOTO-BEACON, Mr. Merriam gives his experience in the line of enlarging without condensing lenses. I was rather skeptical as to the success of his device because I made a similar outfit some time ago and illuminated it with a two-burner coal oil lamp, but the result was a total failure; the center was illuminated, but nothing else. But I thought Mr. Merriam's way might work better on account of the wide spread of the bicycle lamp, and accordingly made an apparatus like he described, and succeeded in enlarging a few half-figure pictures. The originals were card pictures, and I had to make a negative from them about 2½ inches in size, from which I made very good enlargements. But when I tried to enlarge from a 5 by 7 negative I found, as expected, that only one-half of the negative was illuminated. On account of the high cost of a pair of condensing lenses, I searched the market for a pair of secondhand lenses, but failed to find anything suitable, and finally bought a single lens, which measures ten inches in diameter. I mounted it and started to experiment. After one hour's work I found that by placing the condensing lens three-quarters of an inch away from the negative (oval side of lens facing negative) and bicycle lamp three inches away from condensing lens the illumination was at its best and sufficient to cover the 5 by 7 negative to its very corners. Every one who wants to make enlargements from 5 by 7 negatives must have a condensing lens at least eight inches in diameter — ten inches would be better. Negatives up to three inches square can be enlarged without the condensing lens. N. M. FRENCH.

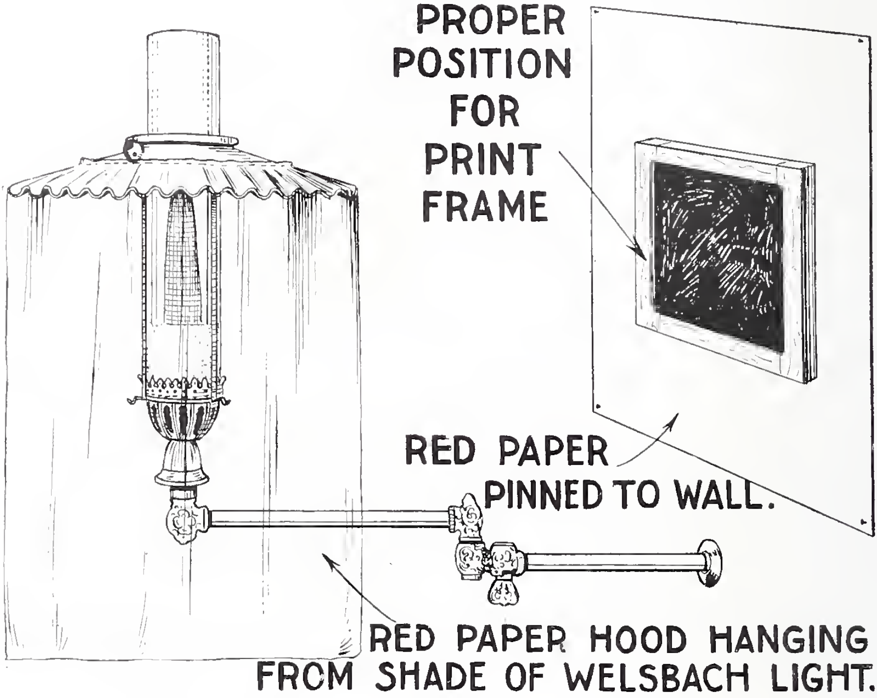

PROPER POSITION FOR PRINT FRAME
RED PAPER PINNED TO WALL.
RED PAPER HOOD HANGING FROM SHADE OF WELSBACH LIGHT.

Fig. 1.

PRACTICAL POINTS FOR AMATEURS.

I.

Realizing that a great many amateurs have had the same trouble I have had in working developing papers, namely, that of the paper being fogged by exposure to strong light, both while filling the frame and developing, I have devised the following scheme: Fit a Welsbach burner with a hood of orange paper (as seen in Fig. 1) fitting loosely around the shade. If the paper is not put too close to the top of the shade it will not burn. Leave uncovered the side of the lamp that is next to the wall. Now if your wall is dark colored, your outfit is complete, but, if it is light colored and you desire to develop under or near the Welsbach, you should pin a piece of orange paper on the wall as seen in Fig. 1. To produce a more uniform lighting on the printing-frame, line the inside of the hood with white paper. By this method you will get more light on your frame and will be able to develop very close to the lamp and still get a strong indirect light on your trays. This method can easily be applied to an oil lamp or an electric globe.

II.

To provide a good serviceable washing box for dry plates was my aim in making the troughlike arrangement in Fig. 2. Negatives washed three years

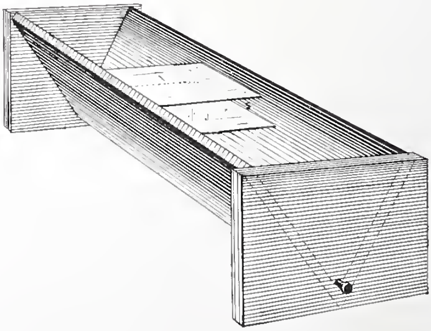
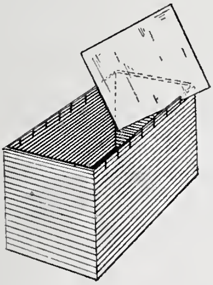


FIG. 2.

ago in one of these washers in a few changes of water are perfect to-day. You will see how my washer is made by the illustration. Make the washer out of planed boards and fit the joints as tightly as possible. When made, give it a coat of black asphaltum varnish. At one end bore a hole and insert a cork. If you have running water, leave the cork out as a means for the water to escape. If you have to use changes of water, the hole provides a rapid means of disposing of the wash-water without disturbing your plates. A good size for 4 by 5 plates is twenty inches long. This will accommodate four plates on the lower row and five on the upper. The illustration readily shows how two rows of plates can be washed, film side down, which is the most approved fashion. The above box is the most convenient and perfect fixing box I have ever seen. The plates can be handled quickly in the dark and are fixed film side down and are above any sediment that may collect in hypo. This box has advantages, despite its comical appearance, not found in any other fixing or washing box I have seen.

III.

To those who are not adepts with tools and to whom 15 cents or 25 cents would buy another dozen paper, etc., I would suggest that they obtain a box and make a negative rack like the illustration. For 4 by 5 negatives get a box three or four inches wide and saw nicks in the sides as seen in figure. By this means you can obtain racks for any size plates for the asking for a box.



IV.

To those who do not care to monkey with two grades of developing paper, slow and quick, and two corresponding strengths of developer, strong and weak, I would suggest that they buy only the quick grade of paper and use weak developer.

Neg. by Mrs. N. T. Cones, Covington, Ky.

With a contrasty negative, use as usual. With a weak or thin negative, withdraw from light until about two feet away and develop as usual. The principle which underlies this mode of procedure is that strong light decreases and weak light increases contrast.

V.

To produce a beautiful print with a black border, proceed as follows: Put a piece of developing paper (preferably the quick grade) in your plate-holder. Place on top of this a mask, any kind will do, but to my mind Manning's are the best. Now on top of the paper and mask place a piece of glass the size of your holder; cleaned negatives make the best kind to use. When you have done this, proceed as if you were using a plate, only, of course, not using a dark-room. The exposure can readily be found by exposing small strips an inch or so in width in your camera. After washing and drying the paper negative, make a print as usual. By this means I get fine black borders with a very little work. The above is also very good for impressionistic photographers, who make fuzzytypes, as you can get broad, sketchy prints by simply printing from the reverse side of the negatives.

I can honestly say that in my opinion The Photo-Beacon is far superior to any other magazine upon photography in the market.

EDITORIAL TABLE.

From Edward W. Newcomb, editor of the *Photo-American*, Bible House, New York, comes a copy of "How to Improve Bad Negatives," written by himself, which tells in very simple language how to deal with such problems as underexposure, underdevelopment, reduction, intensification, dodging, and many other points. It is bound in cloth. Price, $1.50.

Negative by Andrew Emerine, Jr. Fostoria, Ohio.

The Goerz Anschutz Folding Camera, a wonderful instrument for obtaining full-timed results where speed is essential, made by the manufacturers of the famous Goerz lens, is now offered. It is fitted with the Goerz lens and focal plane shutter, and is compact and light and equal to any photographic problem that may present itself. Not one feature is sacrificed for compactness and lightness, and if you wish to learn more write to C. P. Goerz Optical Works, 52 West Union Square, New York, and a descriptive catalogue, telling you all about it and showing many results made with it, will be sent you.

"THE RADIOSCOPE" is the title of a little pamphlet received from C. G. Willoughby, 621 Broadway, New York city. This booklet is devoted to an exposition of a simple contrivance for making pinhole photographs. This is rather an interesting department of photography that comes into fashion every few years, and very recently the members of the Chicago Camera Club have been devoting considerable time and effort to it, and the result is that very recently the members had a pinhole exhibition all by themselves, that proved rather interesting. Those who wish to take up this department of photography will find needful information in "The Radioscope."

Negative by James E. Taggart, Delaware, Ohio.

HAMMER'S LITTLE BOOK has entered into a new edition, the sixth, and has been very carefully revised. Its subtitle is "A Short Talk on Negative Making," and in order to make this as plain as possible there are given some very helpful hints on such subjects as the darkroom, storing plates, developing light, chemicals, and how they should be used. Then follow formulæ especially recommended for use with Hammer plates, and then succeeds some very interesting and practical matter upon such troubles as may befall the average worker, and instructions how to remedy the defects. Copies of the book can be had free on application to the Hammer Dry Plate Company, St. Louis, Missouri.

From the Rochester Optical Company we have received a copy of the firm's new catalogue entitled, "Premo Camera," in which will be found very full particulars of the instruments manufactured by this firm. In addition to the styles that have made the firm famous, we find particulars of a number of new instruments that will find popularity. Perhaps the most noticeable is the one to which has been given the name, "The Premo Supreme," which, it seem to us, ought to be able to adapt itself to every possible kind of work that comes within the field of even the most versatile amateur. For instance, not only is it adapted for long focus work, but it is as readily available for wide angle subjects. It can be used with an ordinary lens and shutter, and yet when a fast moving subject beyond the latter's reach has to be tackled, it can be fitted with a Thornton & Pickard shutter and exposure as short as 1-1000 of a second be made as easily as one of five seconds. Notwithstanding its great possibilities, the camera folds up into a remarkably small compass, so that altogether it is a very striking camera. In magazine cameras the firm introduces for the first time the "Snappa," which is very novel in its construction. It takes a dozen plates, or two dozen films, which can be changed so rapidly that one can almost make an exposure every second. Altogether this instrument is worth investigating. The catalogue is very handsomely gotten up, and is embellished by some very excellent illustrations. From the same firm there comes a second catalogue, entitled, "Poco Cameras," and in this book the eye is first attracted to one of the neatest babies that has ever appeared in the line of plate cameras, namely, the "Pocket Poco," which is fitted for pictures 3¼ by 4¼ in size. On opening this instrument the first surprise comes when you find that a folding camera, offered at the remarkably low price of $9, is actually fitted with a rectilinear lens and a shutter, both manufactured by the Bausch & Lomb Optical Company, and the marvel is how it can be done, seeing that but a few years ago the lens and shutter alone would have cost double the money that is now asked for the complete instrument. To make the marvel still more complete it has a focusing screen so that when desired the picture can be seen and focused direct, before the exposure is made. It looks to us as if this were an ideal instrument for a boy, because he is positively certain to have a chance of making good pictures with it, and even if, boylike, it should be smashed through carelessness, the loss is not very much. We speak on this subject with some experience, and have invested in this instrument for the use of the young folks, more especially with the idea in view of its being utilized for photographing flowers and other subjects of nature in which most young folks are specially interested, as it permits of definite arrangement and focusing before exposure. The instrument, which is fitted with a brilliant view-finder, is very beautifully finished in every detail. The plate-holders are of the single type, and are very simple in construction. A dozen can be easily stowed in one pocket, while the camera can go into another. There are many other things of interest in both these catalogues, which lack of room forbids us specifying, and we would, therefore, advise our readers to send for the catalogue and see them for themselves.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

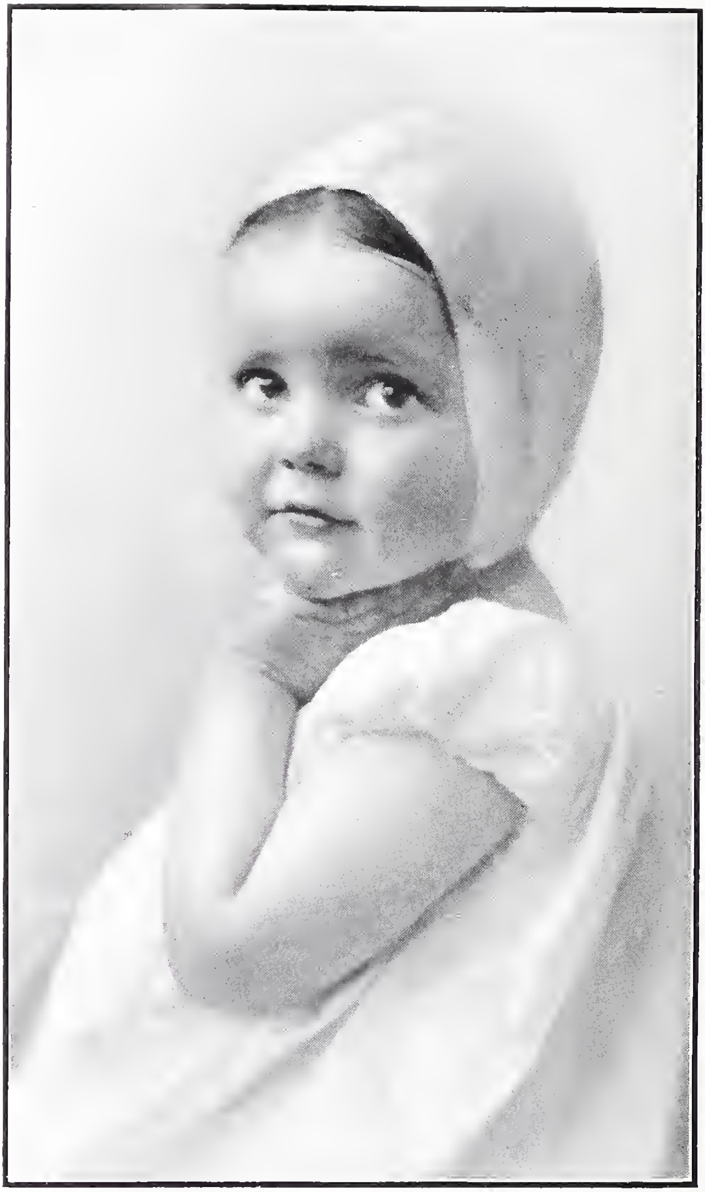
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Negative by Mrs. W. W. Pearie, Waukegan, Ill.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. JUNE, 1902. No. 6.

EDUCATION.

It has been to me considerable of a surprise and no little pleasure to find what great interest my readers have taken in the articles I have been giving them so far this year, and many letters have reached me commenting on what the writers have been pleased to call my "little sermons." I must frankly confess my purpose was not in the least to sermonize, but rather, if possible, to look squarely at facts, try to learn exactly what they were and from them deduce in what way we, as inhabitants of this earth on whom these facts react every instant of the time, ought to comport ourselves that we may get along with the least possible friction and have as pleasant a time as possible while we are here. Some of the letters have been rather startling to me, and not a few of them have been more than pathetic as showing how much suffering many men undergo of which the world has not the faintest conception. In this month's issue I take the liberty of printing two such letters, called forth by my article on "Visualizing," which lead me to still further cogitations on the subject, so that, if possible, I may bring contentment to these writers.

I do not wish to be led into a theological discussion, but so far as I can see, we human beings are the victims of our hereditary instincts plus all of the impressions that we have received in the course of our life. The mind of man is one of the most difficult things to size up properly and estimate its actual value and function, for the simple reason that it is utterly impossible to take it out of a man's head and look at it in a cold-blooded way, as we would examine any ordinary natural object. Each individual has lacked the essential of a good measuring rod, and has been compelled to measure his own mind by itself, and therefore, the deductions made are inconclusive. This much, however, seems to be almost placed beyond the realm of dispute, that it is not a factor which creates something out of nothing, or a bar before which notions are arrayed and there tried and determined to be right or wrong, true or untrue, but simply a piece of mechanism working in a perfectly orderly way, observing impressions brought to us by the five senses, and by combining these in some way and from the material thus received, evolving ideas. This being the case, it becomes somewhat easy to understand that if we only knew the starting point of any brain and the impressions that have been conveyed to it during its lifetime, we might be able to deduct by rule what its finishing point would be. Viewing a brain, then, as a piece of mechanism, education is not, as it was long believed to be, a leading out of what is in an individual, but rather the introducing into his mind of such impressions as will be evolved by the natural working of the machinery into such ideas or mental pictures as will be conducive to his future happiness and comfort.

The ideal to be attained by education is just as variable as is any of man's interests. Not so very long ago it consisted practically in the implanting of theological notions intended principally to fit a man for a future world. When, however, the industrial period was evolved at the breaking up of the feudal system, men's thoughts became more concentrated on the affairs of this world, and accordingly the idea of education underwent a change, and the tendency was to make it more and more of a practical character so as to fit the individual to make a comfortable living. This idea was defined as fitting the youth to fight the battle of life and resulted in the evolution of the idea that the greatest thing in the world was to accumulate a big pile of dollars for which the individual, by the way, could have no earthly use. In other words, he was trying to lay up a reserve fund sufficient to keep him alive for centuries, but which the forces of nature forbade that he should ever live to enjoy. This is the materialistic conception of mental development to which one of my correspondents takes so much exception, and he sees in it nothing but utter ruin to the character of the human race as the logical outcome of the idea. I think, however, he is mistaken. He seems to forget the principles that underlie all human development. To me these seem to be summed up in two factors, the first of which is the law of least effort which demands every individual shall supply his wants with the least possible exertion. This is a constant, and were the human mind a fixed quantity there would result that deadness of uniformity he so much dreads; but the human mind is constantly developing, and the consequence is it evolves new wants, this being the necessary variant in the progress of mental evolution. We human beings sooner or later become satiated with any satisfaction of a particular want, and in consequence demand a change. The vast accumulation of wealth so characteristic of modern times is becoming almost nauseating in its superfluity to very many people, and so a reaction of some kind is about to set in. The present ideas of education are in the melting pot, and experiment after experiment is being made by educators in order to discover the best means of developing the brains of the pupils. It is a question if they really know the objective at which they aim, but sooner or later they will probably blunder upon it after they have eliminated all the possible ways of doing the right thing the wrong way.

Very recently I heard a definition of education which was evolved in the course of conversation by one of my friends on the spur of the moment, one that I think contains in it nine-tenths of the truth. "The most general use the average man finds for his education is to amuse himself in his leisure hours." This is a rather startling definition of so important a factor of our make-up, but when we consider it candidly we will have to admit that it is very largely true. Although the idea has not impressed itself upon most men in such clear-cut language, yet it will be admitted that they are acting upon it to a very large extent. Most people are endeavoring to interest their young folks in such subjects as music, art, dancing, natural history, etc., for which the individual will probably have no use whatsoever in his efforts to earn a living, and which he can utilize only in his leisure moments. This idea of education is bound to broaden more and more, and the logical ending of the thought is to lead the human race very much toward the goal my correspondent desires shall be the objective point. He is simply a forerunner of the idea, and could he live long enough he would probably be surprised at the extraordinary proportion it would attain. In no period of the world's history has there been such a demand for books on nature-study as there is at the present moment, and any bookseller can tell that there is less risk in publishing such a class of books than with any other, not even novels being excepted. Whenever, therefore, a young man finds his most congenial amusement at the saloon bar, it is proof positive that he has not been properly educated.

By this time my readers all doubtless know that very much of my aim is to interest them in their natural surroundings and that I have endeavored to utilize their love for photography to lead them more and more to the study of nature and nature's laws. For years I have persistently endeavored to interest them in art matters and have determined my course by a deliberate consideration of their actual mental attitude, basing it very largely on my own personal experience, as I believe myself to be built on the average plan, and what will influence me will, I think, be equally effective with them. In order to awaken their minds to the beauties of nature I accepted the conditions as I found them, realized that they had been educated in a school where an effort had been made to measure and to weigh everything as with a yardstick or a pair of scales, and so, instead of talking vague generalities about art, I took the scientific trait of mind which had been developed within them and endeavored to divert it into pictorial channels, knowing full well that if ever I got them on the starting point, their mental mechanism would reach out in a most natural and logical way to the goal I desired them to reach. As a business man I realized my environment, as an educator I determined my objective, and adapted myself to the conditions. My correspondent, I think, should endeavor to adopt the same mental attitude, try to realize the bias in the minds of those who surround him, and with infinite patience gradually draw their attention to some of the most commonplace facts that surround them and how beautiful they are, and he will be surprised at the result. "Knowledge begins in wonder"; that is the law, and if he can but induce a few to wonder at some of the objects in which he is so greatly interested, he can with the utmost confidence await the outcome. As a final suggestion, might I advise the cultivation of the sense of the ridiculous. We must not in this world take ourselves too seriously, and happy is the man who can see the funny side of things. Sometimes when I feel like crying over the pathetic phases of some men's lives, which they themselves do not realize, I am saved by noting how screamingly funny the whole thing is, and thus save my nerves. The great thing in this world is to be happy, but, unfortunately, while we all desire the other fellow to be as happy as can be, we insist that he shall be happy our way, but after all, it is nobody's business but his own how he takes his pleasures so long as he does not interfere with the natural rights of others. And we who think we know better, although we may be mistaken, can only sit and grin. It is so much easier to ridicule than to understand.

F. DUNDAS TODD.

W. I. SCANDLIN, lately editor of *Anthony's Bulletin,* announces that he has opened a Photo Instruction Bureau at 345 Sixth avenue, Brooklyn, New York, and that he will give instruction in the art by mail. He will also cater to professional photographers in the way of getting up their advertisements and booklets.

PHOTOGRAPHERS' ASSOCIATION OF THE PACIFIC NORTHWEST.

The Photographers' Association of the Pacific Northwest have announced their dates for their second annual convention for this year, at Tacoma, Washington, September 17, 18, 19 and 20, almost a month earlier than a year ago. They do this to avoid the rainy season, and yet it is late enough not to conflict with Eastern conventions, and they hope to have a good representation of manufacturers and dealers in attendance at Tacoma, Washington, this year. They are very enthusiastic over their prospects of a large attendance at this convention.

The Photographers' Association of the Pacific Northwest have adopted the plan of the National Photographers' Association in not awarding any prizes, except to foreign exhibits, and also to select from the exhibits at their convention the best pictures to form an exhibit to be sent to the National Photographers' convention the following year.

PICTORIAL COMPETITION No. 48.

The prints sent in for this, the first general competition we have ever had, proved to be exceedingly disappointing, for I had anticipated that very great interest would be taken in a competition that was so wide in its scope, but, as a matter of fact, the average prints sent in were inferior to what we get in our special contests.

The judges made the awards as follows:

First prize — Mrs. W. W. Pearce, Waukegan, Illinois.

Second prize — W. H. Porterfield, 131 West Eagle street, Buffalo, New York.

Third prize — James E. Taggart, Delaware, Ohio.

PARTICULARS OF WINNING PRIZES.

First prize — Made on Cramer Banner plate, exposure two seconds. Printed on Willis & Clements platinotype.

Second prize —Taken March, 1902, at 10 A.M., during rain, on Stanley plate; exposure ⅛ second, open stop. Printed on Cyko paper.

Third prize — Made late in August afternoon, with hazy light, on Stanley plate, stop No. 16. One-half second exposure.

FUTURE COMPETITIONS.

Competition No. 50 — Domestic animals. Closes June 30.

Competition No. 51 —Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 52 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 53. — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying, a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

PANORAMIC PHOTOGRAPHY.

I.

No matter what the size of the camera, whether it be a four by five or many times that size, every worker occasionally feels that it is not quite large enough, and they develop a hankering to make something larger. This is especially true with owners of boxes of the smaller sizes. Now it does not follow that because the camera is small in size that larger work may not be made with it, because it is not only possible, but quite easily accomplished. The manner of doing so, which we will consider in this article, is known as panoramic photography, and furnishes a means of producing results which are thoroughly artistic and at the same time give the worker an opportunity for practice.

The work assigned to me was an article on the printing of these pictures only, but as the making of the negatives has so much to do with successful printing I will have to give a few pointers on that part of the work to make the printing method more easily understood.

The worker should be far enough advanced in the various photographic processes so that he or she has the making of a negative or print under fair control. If the exposing of a plate is merely guesswork I would not advise any one to commence this work until more experienced.

While it is possible to make a set of negatives with almost any old camera, it will be found that in order to work with any degree of certainty the operator must have a camera with a ground glass and a lens which will cover the plate completely to the corners, and does not distort the image. No special tools are needed except a large developing tray, and for convenience, a printing-frame, which will be described later on.

When filling the plateholders it is advisable to use plates taken from one box, as they will generally be of one emulsion and work practically alike. Any good plate of fair speed will do. Extremely fast or very slow plates are not so well adapted to the purpose, although they may be used; but my experience is that they are much more difficult to match in printing quality.

Great care should be taken to select a day and hour for making the exposures when the light will vary as little as possible during the short time required to alter the position of the camera and change the holders. A clear, sunshiny day is about the best, but as cloud effects add quality to the appearance of these pictures it is desirable to secure them when possible; but a time should be selected when the clouds move slowly, and when the sun will not be obscured during the time required to make the series of exposures.

There are two ways of setting the camera for making different classes of subjects. One is to set the tripod firmly in position, with the camera as nearly level as possible, and make the different sections of the series of negatives by

Negative by W. H. Porterfield, Buffalo, N. Y.

SECOND PRIZE.

swinging the camera sideways, using the tripod screw as a pivot. This is the usual and most commonly used, and is the easiest method for ordinary landscape work where there are no objects which will give a long, straight line, showing on more than one of the negatives. To illustrate, we will say that the subject is one side of a street, with sidewalks and curbing. Photographing such a subject from one point by swinging the camera sideways would break the line of the curbing and the result, as seen in the print, would be as many angles as there are plates in the series.

For such subjects it is necessary to move the tripod for each section, always keeping the same distance away from the curb or whatever the object may be, and judging the distance to be moved to the right or left by the position of some given point in the subject, on the ground glass.

These angles always result when working from one point, but when no straight objects are in the foreground they do not show in the print and the effect is practically the same as seen with the eye.

After selecting a subject suitable for a long, narrow print, the tripod is set in position about opposite the middle of the subject and firmly planted. Proceeding just the same as when making a single negative the camera is pointed so that one part of the subject shows on the ground glass. If it is a two-negative set that is wanted one half of the subject should show, and if a series of them then only one-third of the whole should appear on the glass.

Now we will say that what we want is a set of these negatives. It will make no difference whether we commence at the left or right, but in this case we will say that we commence with the right section and work toward the left.

The operator's own judgment must be the guide as to whether the subject is correctly chosen and divided, but there are one or more points which must be observed in order that the joinings will not show in the print.

The full length of the negative can not be printed, as it is necessary to have space at the end of each negative to allow for vignetting or blending. It is a good plan to make pencil marks three-quarters of an inch from each end of the ground glass and focus the sections of the subject inside of these lines. The middle plate will lose one and one-half inches of its length in printing and the end plates three-quarters of an inch on one end only, as the outside ends are not joined to other plates and may be printed to the margin.

Care should be taken when focusing to see that no prominent objects in the subject come right where the join is to be made, especially if in the foreground. Sky, water, grass and all plain parts match easily, while a person, tree or prominent part of a building are not so easily fitted together. A little study and judgment used at this time will save a whole lot of trouble when printing.

When the first plate is made, note carefully some point in the subject which shows near the pencil mark on the ground glass, and when the camera is turned for the next section have this point come just on the lines in the other end of the focusing screen. In this way one plate takes up the subject just where it was left off in the last one. This method is followed right through the series.

It is not really practical to make a series of more than three plates, as each additional negative makes it necessary to narrow the print more and more. Using more than three plates usually makes a print that is out of proportion unless the subject is just suitable, which is rarely the case. I would advise the beginner to commence with a two-plate set so that there will be only one join to make for a starter.

The exposures are made just the same as with ordinary work. Either snaps or time exposures may be made, according to the subject or light. If the subject is such that there is much foliage showing where the join comes, the exposure should be short enough so that the foliage is not blurred if the wind is moving it. Persons or moving objects should be kept clear of the edges where the join comes.

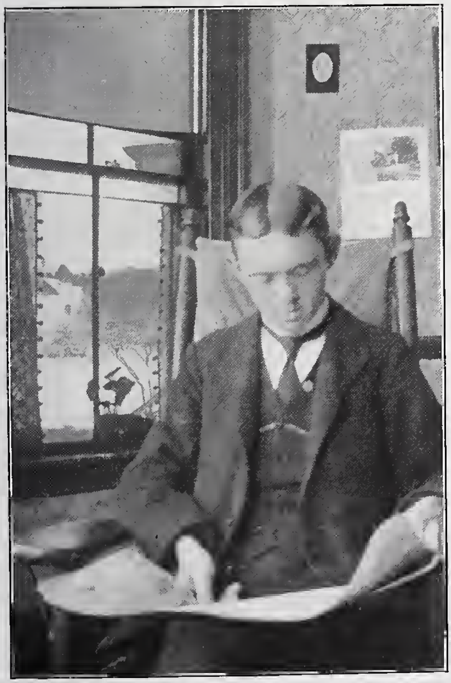
The developing of the negatives is done as usual, except that they should be handled at the same time in the same tray of developer to insure as uniform density as possible. Absolute evenness of density is not necessary, but the nearer the negatives are alike the easier they are to print from.

The best negatives to handle are those which are fully timed and developed to fair density, but not so far but that when the ends are lapped, one on the other, the detail of both can be seen. This makes it easy to see when the sections are exactly matched, when they are held to a strong light and the joining observed.

LOUIS H. HOYT.

TRICK PHOTOGRAPHY.

I enclose you a sample of my work in trick photography. It is a picture of my son, and the manner of its production was as follows: I covered the lower part of the window with black cloth. Using stop 16 I made an exposure of twenty seconds for the interior; the model then left the chair and I enveloped it (the chair) with black cloth, being careful not to move it. I then took the cloth from the window and made an exposure of one second for outdoors, and the result you see.



JAMES THOMSON.

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER VI.

PERSPECTIVE.

It is not my intention to drop the subject of figure composition, but as the same principles apply to both landscape and figure arrangements, I wish to here say a word about landscape and combinations of landscape and figure composition, thus carrying the two subjects along together.

I expect to return to genre subjects, and speak further upon combinations where the lines of the figures themselves play more directly into one another, as well as more conventional arrangements, but I should like, before going further into these matters, to touch upon the very important subject of perspective. One hears the expression that a picture should stand out, but this is a great fallacy. On the contrary, it should stand in. The charm of a picture is largely dependent upon its depth. If the picture is so arranged that one is drawn forcefully into it, one is conscious of the same charm that is felt when, from a high elevation, one can look out on a vast country. It is clear, then, that the sense of depth in a picture is to be desired, and while this is obtainable and can be forced or accented in various ways, I shall devote this paper to the manipulating of perspective, and how it can be used to give great beauty with richness to the line.

Take the railroad tracks and telegraph wires all running to the point of sight. It has a certain charm, inasmuch as it has depth, and leads us miles and miles away, but there is no pictorial beauty in it because of its absolute monotony. A country road, on the contrary, winding off into the distance, with its varied edges of the groups of trees and fences, is far more charming. In other words, if we vary the straight geometrical lines of perspective we make it more beautiful, but there must be some principle of beauty that can be followed. There must be some reason why one is more charming than the other. In an arrangement of single point perspective, such as the country roadway I have spoken of, the groups and incidents, whatever they may be, should be placed so as to introduce the " S " line across the geometrical Λ of perspective.

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*Copyright, 1902, by F. Dundas Todd.

Of course, all lines that run into a picture are good, but they must be so varied or broken in just the right place that the eye is drawn into the picture along a pleasant swaying line, describing a large sweeping " S " as it advances into the distance. I know of no better way to make this thing clear than by going over a painting in which those things are carefully arranged. Take the picture by Anton Mauve, published with this paper. I have selected this because his point of view was taken squarely in the middle of the road, and illustrates the point in hand admirably. As the eye is led into the picture it is deflected almost immediately to the right by the large group of trees, but the interest swings quickly back into the middle of the picture, and centers on the white horse, brought into sharp contrast with the dark cart. You will notice there is nothing of interest immediately behind the cart nor to the right of it, but the eye is drawn over to the left of the picture as the group of trees on that side of the road attracts the attention and gives the line a graceful sweep up into the sky, thus balancing the curve formed by the trees and the wheel track on the right. So, considering the trees as accessories to the road, we see that they have softened the straight-away monotony with a rich compound curve. It will also be noticed that the wheel tracks themselves are artfully varied. The suggestion of a second track in the immediate foreground, fading out almost immediately as it advances beside the more important ones, gives the " S " line a little richer turn at the bottom and prevents its terminating in the otherwise severe lines of perspective, at the same time without weakening the constructive value of the other. Notice how the opening between the trees runs down to the distance from the top, making a beautiful line quite in sympathy with the general sweep of the arrangement.

The irregular patches of grass and weeds at the roadside are cleverly arranged to be in sympathy and carry out the general scheme. Of course a landscape can not be arranged as a figure subject can, but by intelligent selection a great deal can be accomplished. There are plenty of beautiful arrangements out of doors just as they are, if you but have the eyes to see them.

This picture of Anton Mauve's is, of course, the simplest form of perspective. All lines here vanish to a single point of sight.

We will now consider a picture that is constructed on angular perspective, in which we have lines vanishing in two directions, as our different groups are seen from the side and not from the center. This is a much more elaborate problem, but when properly handled is capable of a far richer and more beautiful line, expressing at the same time equal depth as the single point perspective. In this picture, " By the River," of Lerolle's, we have the vanishing points in two directions. The lines of perspective in the group of figures in the foreground lead to the right, and, if continued, would lead out of the picture. The perspective of the river in the plane beyond leads to the left in the opposite direction, and the lines of the distant hills lead back again to the right. It is quite clear, I think, that the eye, in merely following the different planes of perspectives, describes a well-defined zigzag across the picture, first from the bending figure to the mother's figure, who is beyond her and to the right. From here the perspective of the river draws the eye entirely across the picture to the large tree and group of cows. The hills in the background lead off into the distance, and the eye is attracted across the river to the little group of houses and trees that come into sharp relief against the hazy distance. It is now quite clear that the picture is constructed on such lines of perspective as would lend themselves to the making of a beautiful compound curve, providing the accessories or groups themselves could be so arranged as to turn the corners gracefully. In other words, the lines must not be allowed to run out of the picture, but the groups, with their accessories, so manipulated that the eye is carried on into the picture by the lines of the second plane of perspective where it was dropped by the first, and picked up by the third plane where it was dropped by the second, thus always keeping the interest in the picture. It you will follow this superb arrangement of Lerolle's closely I think I can make plain the masterly way in which it was accomplished. The picture being a panel shape, the line should naturally sweep up as it advances through the picture. It will be noticed that the first figure is bent under her load, bringing her head lower than the mother's — just the reverse of where the perspective, had she been upright, would have placed it. The legs in action give the back of the skirt a pronounced curve, which, by the way, is the most accentuated line of the figure. In this way the larger figure is made to lead up to the smaller one. The child and the mother do the trick of turning the first corner and diverting the interest back into the picture. The child's back, arm and head, posed as they are, start the curve in the other direction, which is carried across the picture by the bold line of the river bank. The group of figures is admirably bal-

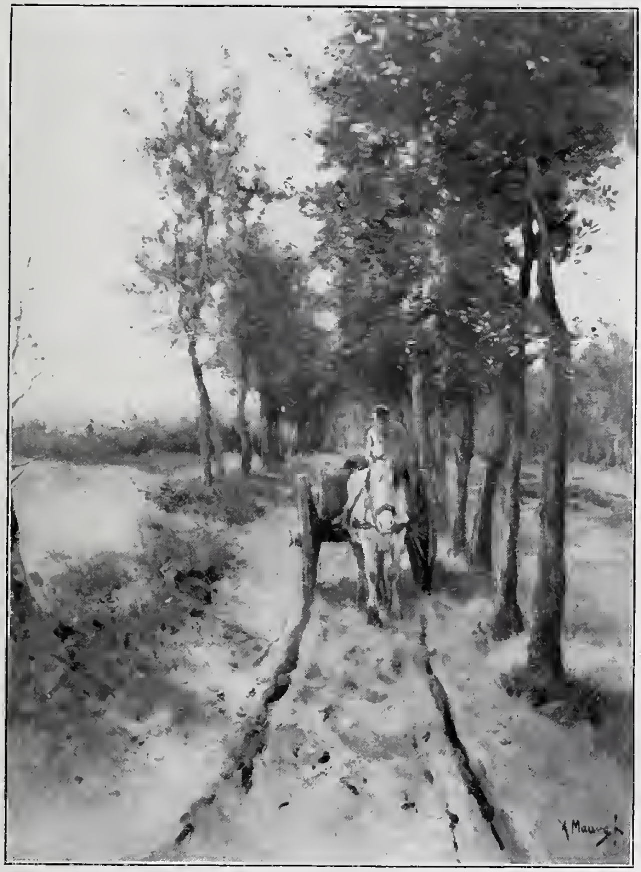

Fig. 14.

anced by the large tree at the left. It will be noticed that the eye is being carried up all the time, but now, of course, in the opposite direction, the sky being so varied as to throw the line back toward the center of the picture at the top, completing the beautiful sweep from the top of the tree to the bottom of the figures.

The group of cows on the extreme left serves exactly the same purpose the baby does on the right. This group helps balance the figure group and softens the otherwise abruptness of the great tree, at the same time introducing an additional point of interest. More important than these, however, this group prevents the long straight line of the distant shore from running abruptly out of the picture, by blotting it out at the critical time. The lower branches of the big tree soften the top of the distant hill, and these two straight lines are either blotted out or softened, and at the same time we have the dignity and simplicity of that long, high bluff. So the second angle is successfully rounded and the eye runs off into the perspective of the hills in the opposite direction, nearly across the picture again, where the sky takes it up and runs back into the picture from the right, so that the most distant point seems to be the narrow streak of light just over the bluff in the center of the picture.

In passing it is well to note the beautiful way in which the trees are spaced, but to avoid confusion I will not speak further of this matter here. Composition is made up of many things, but I wish you to take one thing at a time and get that thoroughly.

Hoquiam, Wash., May 13, 1902.
Editor:

Tell N. M. French (see page 155, May issue) to place a ground glass between a lamp and negative to take the place of condensing lens. I use an 80-candle-power parlor lamp, 5 by 7 lens, and make life-size enlargements on bromide. Yours truly,

Charles F. Hill.

PHOTOGRAPHIC SOCIOLOGY.

Chemical dealers should be thankful to The Photo-Beacon for February, as it has caused a considerable boom in their business, all on account of the blue-prints. For a long time I had threatened to try making blue-print paper, and after reading The Photo-Beacon for February I was so fired with ambition that I attempted it. I used the citrate of iron and ammonia-prussiate of potash formula, and first tried a good quality of newspaper, floating the sheets three minutes and drying them in a stove oven. Results were poor. Too much heat appeared to cause an undesirable blue-green shade to the paper — like old paper, while the paper itself had a brownish white in the high lights. A second trial with a cheap white very lightly sized writing paper turned out well. I put the solution on with a cotton pad and had fine results. Handsome blues and clear whites. Then I tried cloth and got nice, brilliant prints. I sensitized the cloth by handling it as one develops strip film. Showed my results to other camera owners. Enthusiasm over blue-prints grew suddenly. One buys blue-print powder, tries it. Cloth is blue — no whites — poor thing. Cause believed to be sizing, etc., in cloth; he never thought of that. Another attempts same formula and paper I used. Paper will not print. Looks the way a muddy window pane does after a damp spell. Says solution was clear, too. Can not say all he wants to; church member. Third man tries same solution, same paper. Prints faint — need camphor — whites bluish. Thinks solution needs iron in its constitution; adds more, citrate, etc.; results better; he is happy. I had good blue-prints, real good. Top notchers. Dissatisfied; want black-blue prints. Experimented. Got gallic acid, etc., as The Photo-Beacon suggested. Followed instructions closely. Used enameled and porcelain dishes. Fixed prints in hydrochloric acid, faded them out to a very faint brown with ammonia; faded some away out. Washed them — opened a blue-print laundry. Put the ex-blue prints in gallic and salicylic acid, as directed. Soaked them long time. Turned faint iron rusty brown, like damp platinum paper. Tried more. Boiled acid and print; kind of blue-print soup. Print was in the soup. No better. Left some in soak over night. Had a blue-print next morning. Color came back, like the cat. Was glad then. I had seafaring ancestors. Heredity helps out at times. I believe the iron deposit is insufficient to allow of the gallic acid and its partner in crime getting in its full work. It is not on account of the original fixing bath, as I tried ammonia until I got clear white paper and, worse luck, it staid white when the gallic and salicylic acid bath got at it. Cloth gave the same results. Now, will some PHOTO-BEACON reader who has been through the mill kindly set up a guide-post for me. I am a photographic babe, lost in the chemical woods, and have not any fairy godmother around to start me right. I have hung a "Help Wanted" sign around my neck, and am waiting

FIG. 15.

to see what may be the value of advertising. CHAS. MONROE DOTEN.

[Mr. Doten might try fading the blueprints with a solution of caustic potash instead of ammonia, as in that case there would be less danger of dissolving out the hydrates into which the blue deposit is converted by the action of the alkali.

Ordinary paper is not to be recommended for blue-print work, as it is more or less contaminated with hypo, and hypo is bad medicine for the blueprint solution, as may be readily determined by dropping a crystal of it into the mixture.

To get the best results on cloth, it should be prepared with casein before sensitizing.

It is not difficult to prepare casein yourself, but it is dodgasted tedious. Better buy an ounce of it from the druggist and dissolve it in water with the assistance of stronger ammonia. Use about a quart of water and four ounces of the ammonia to an ounce of the casein, and stir it up occasionally during one whole day (it is less soluble than sugar).

Pass your cloth through the resultant milky solution; dry it thoroughly and then treat it with the blue-print dope.

Try a straight pyro developer on the print after it has been bleached. I say straight pyro developer, but it would be better, perhaps, to add five grains of oxalic acid for each two grains of pyro and thus, in a measure, overcome its tendency to stain the whites.— R. M.]

THE MAN BEHIND THE GUN.— Up to a certain point, and in the hands of ninety per cent of the followers of the art who are not artists, the photograph is in the process, but with the others the picture is in the man (as in the painting, only in a less degree, and as far as the materials will allow). The process takes a very subordinate place, and is dominated by the taste, thought and feeling of the artist, when an artist uses it with what may be fairly called emotional results.

H. P. ROBINSON.

THE DEVELOPER AND ITS CONSTITUENTS.*

BY A. K. BOURSAULT.

CHAPTER IV.

RESTRAINERS.

There are many chemical bodies that may be employed as restrainers in the process of development, and for convenience' sake they can be approximately divided into three classes: First, the physical retarders, such as sugar, glucose, glycerin, temperature, dilution, etc.; second, the acid retarders, such as acetic and boric acids and their salts; third, the chlorides and alkaline bromides, the last being the ones most generally used. It must, however, be noted that the result obtained by these various restrainers is not altogether the same. Generally speaking, we can say that the part they play in development is to regulate the action of the developer, and to prevent or rather retard the appearance of general chemical fog on the plate.

The best known of all retarders is potassium bromide, which is conveniently kept in a ten per cent solution and added to the developer before or during development, as required. When buying potassium bromide it is very important, for good results, to obtain the salt in a pure state (C. P.), as ordinary commercial bromide often contains a large amount of impurities, mostly potassium chloride and iodide, nitrates and carbonates.

Potassium bromide should be bought in the form of pure white crystals of cubical formation, having a strongly salty and acrid flavor.

Like most restrainers potassium bromide acts very differently, according to the reducer with which it is employed. Some developers, like ferrous oxalate and pyrogallic acid, used in conjunction with the carbonated alkalis, are very sensitive to it, a few drops of a ten per cent solution being sufficient to exercise a strong retarding action. If, however, a pyro-ammonia developer be used the restraining action is exceedingly feeble, while the main effects of liberal additions of bromide is to keep the plate

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* Copyright, 1902, by F. Dundas Todd.

clear from chemical fog. Potassium bromide acts in a similar way with the quinol developer when sodium or potassium hydrate is used in conjunction with it, keeping the plate clear and exercising a sensible retarding action only when used in very heavy doses. With quinol and carbonates the restraining action of bromide is, on the contrary, rather too powerful, and its use should be very discreetly regulated, or, better still, avoided altogether. If not, chalky negatives will inevitably result.

With glycerin the restraining action of potassium bromide is very decided, and it should never be used when the temperature of the bath is below 60 Fahr. With adurol, metol-quinol, eikohydro, paramidophenol, rodinal, amidol, its action is moderate, and exercises itself both as a preventive of chemical fog and in retarding or restraining the action of the developer. With metol and pyrocatechine the liberal use of bromide has hardly any effect beyond keeping the plate clear, and requires to be employed in very large quantities indeed to exercise any restraining action (see table).

Ammonium bromide, mostly used now with pyrogallic acid or with lantern slide developers, is not so stable as potassium bromide, nor so easily obtainable in a pure state and of uniform strength, as it partakes of the instability of all ammonium compounds. Its fog-preventing action is greater than that of potassium bromide, and allowance should be made accordingly when using it in the compounding of formulæ. Its comparative strength is variously given by divers authorities as follows:

Ammonium bromide 1 = potassium bromide 1.21 — 1.30.

Sodium bromide and lithium bromide are very seldom employed, nor do they offer any advantage over potassium bromide.

The second class of restrainers do not deserve anything but passing mention, as their advantages are very doubtful except under certain circumstances,

Negative by Jas. E. Taggart, Delaware, Ohio.

THIRD PRIZE.

with the possible exception of the citrates and chlorides of sodium and potassium, which have been advocated by some eminent authorities. Thus, Captain W. de W. Abney endorses the use of sodium chloride with the hydroquinone-potash or soda developer on account of its mild restraining action. The citrate of potash again is indicated as particularly adapted to the pyro-potash developer, and to some of the newer developing agents like amidol. Then again certain acetates have been proposed for pyrogallic developers, but on the whole they have not been found to offer sufficient advantages to warrant their introduction in general practice.

The last class of restrainers, and that to which no sufficient attention has been given, either by amateur or professional, is the one first mentioned in this article, that of the physical restrainers. The principle involved is this: A substance exercising no chemical action on the developing solution is mixed with it, and enveloping, so to speak, every molecule of the developer, and in a viscid fluid it prevents its quick action on the film by the sheer force of inertia and physical resistance.

Sugar and glycerin figure yet in many formulæ. Their use seems, however, to be antiquated, and especially with developers other than pyro. They do not seem to offer advantages enough to offset the many inconveniences their use entails.

Not so, however, with the other two physical restrainers, namely, cooling and dilution of the developer. We strongly urge the student to master these two powerful means of control. Far too little attention is paid to the temperature of the developer; and yet its influence is considerable. In many cases, and especially with certain developers, cooling down will allow a prolongation of development, nearly as great as bromide, and this without subsequent alteration in the character of the negative obtained, thus putting a powerful tool in the hands of the photographer, the one, at least, who develops with brains.

Dilution acts differently with different developing agents. With some of them it is supposed to confer softness to the negative; with others it simply exercises a restraining action without any change in the final results.

The following table will show at a glance the comparative action of these restrainers on a plate correctly exposed, and the retarding action obtained thereby. Temperature of experiments 65°. These figures are taken from the remarkable work on development, "Die Entwickelung Bromgelatin silverplatten bei unbekannter Beleuchtung," by Baron Von Hubl:

DEVELOPER.	Time of development of normally exposed plate in seconds.	Restraining action in seconds of		
		0.2% Potassium Bromide.	the cooling down of the developer to 50°F.	the addition of an equal volume of water to the developer
Pyrocatechine and Caustic Soda	15	5	10	20
Metol and Potash ...	20	5	10	0
Hydroquinone and Caustic Soda	25	110	105	70
Amidol	30	50	60	5
Adurol and Potash ..	30	30	45	25
Paramidophenol and Potash	40	70	30	30
Rodinal (Paramidophenol plus Caustic Alkali)	40	45	40	30
Pyro and Potash	40	35	55	40
Glycin and Caustic Soda	45	90	70	125
Eikonogen and Potash	50	85	55	80
Pyrocatechine and Potash..	60	140	60	70
Hydroquinone and Potash	70	95	80	120
Glycin and Potash...	75	210	130	115
Ferrous Oxalate.....	75	280	90	80

THERE are very few dollars a man pays out that he gets $25 worth for in return, but THE PHOTO-BEACON is one of them. W. B. LOOMIS.

BAUSCH & LOMB OPTICAL COMPANY, Rochester, New York, have just issued a pamphlet which is largely devoted to a description of their new Volute Shutter, giving details of the method of manufacture which are, to say the least, more than interesting. Until one reads such a book as this, it is hard to realize what infinite patience and care are exercised in the manufacture of such a clever piece of mechanism as a shutter. Copies of this pamphlet can be had on request.

ISOCHROMATIC PHOTOGRAPHY.*

CHAPTER V.

A SPECTROSCOPICALLY CORRECT COLOR SENSITOMETER.

In this chapter I shall discuss the particular advantages of a specially designed color sensitometer (or plate tester), which has been perfected by the writer for the benefit of those workers in photography who may not be inclined to invest a considerable amount of money in providing themselves not only with the necessary instruments, but with the knowledge to use the same. One writer tersely says, "Mortgage your home and buy a spectroscope," but to some this method presents certain disadvantages which may, in their minds, be not quite equaled by the possession of the instrument.

Abney (an eminent authority on all photographic research work) first introduced the idea of such a sensitometer, but he did not carry the detail of the idea to the point of perfection which would make it replace the spectroscope to all but the physicist, and after much experimental work the writer has succeeded in being able to place in the hands of the photographer an improved form of sensitometer which, if used with the average amount of intelligence, will perform the necessary work and give clear and definite results.

It consists essentially of a series of eight colored transparent squares, together with a "white," which are adjusted to transmit the following:

Number.	Hue.	Fraunhofer lines.	Scale.
1	Dark red..........	Passes color only from A to B	1.5 to 2.9
2	Red	" " " " A " C................	1.5 " 3.5
3	Light red	" " " " A " D minus.........	1.5 " 4.8
4	Orange	" " " " A " D plus	1.5 " 5.3
5	Yellow-green.....	" " " " D⅕E to b	5.3 " 7.5
6	Blue-green	" " " " E to F	7.0 " 9.0
7	Blue..............	" " " " F " G...............	9.0 " 12.7
8	White.............	All colors in white light.	....

9 A rectangular slip of blue-violet which passes color from F to H, plus, 9.0 to 16.1, and which also passes a band of red from A to almost the C line, 1.5 to 3.3

In addition there is a series of twenty smaller squares of neutral gray which divide a beam of light from its highest luminosity (100) to opacity (0) in equal units, that is to say, luminosity is placed for convenience at 20 instead of 100, and each successive square is just one unit deeper than the first transparent square, so that square No. 1 passes the *full amount* of light, while square No. 20 passes none with normal exposure (see Fig. 19). In Fig. 20 is shown a representation of the solar spectrum, with both Fraunhofer lines and Bunsen scale, and divided perpendicularly throughout its length by heavy black lines which indicate the amount of the spectrum which each glass passes. With such a key before the eye there can be no possible error in the reading of the deposit, either in line, scale number or Fraunhofer lines.

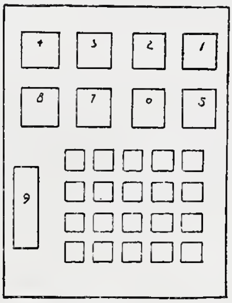

FIG. 19.

In use the instrument is handled in the following manner: Suppose that it is desired first to find the color sensitiveness of a particular plate — for example, the Cramer Instantaneous Isochromatic. A small size is taken (3¼ by 4¼) and placed against the sensitometer in the darkroom in the same manner as in making a lantern slide, by contact, and exposed to light for a few seconds and then developed. It stands to reason that certain of the color squares, together with certain of the density squares, will show upon the plate, while certain others will be absent. Suppose that, after exposing and developing a plate, we find a deposit upon squares 5, 6, 7, 8 and 9; we immediately know that the plate is sensitive to yellow-green, blue-green, blue and blue-violet — the action which has taken place under square 8 being simply due to these colors, which, of course, exist in white light. If, however, the action was shown only by a deposit on squares 2, 3, 4 and 8 then the plate would be sensitive only to the yellow, orange and part of the red, the action in square 8 again being due to the presence of these colors

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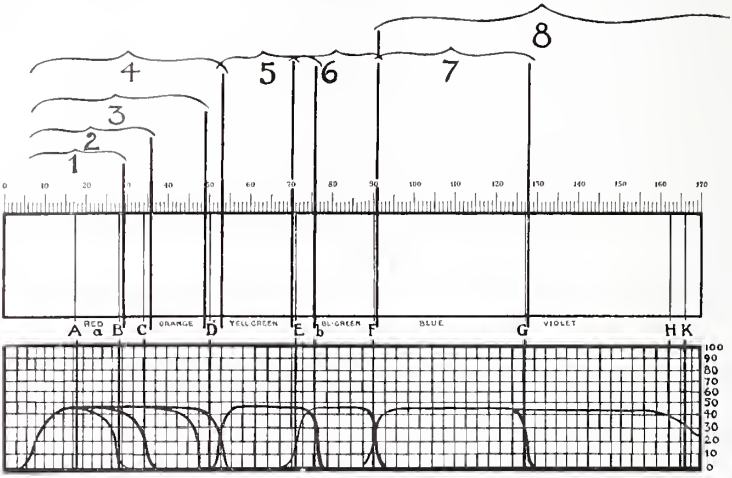
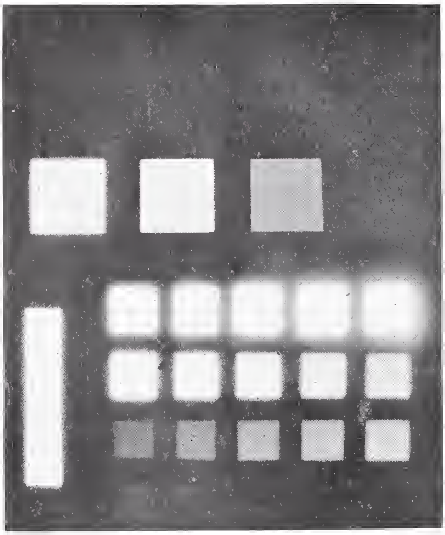
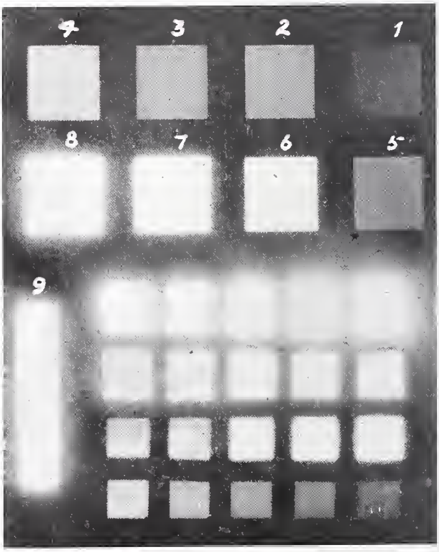


Fig. 20.



Seed 26 X. 1 min.

Fig. 21.



Seed 26 X. 60 min.

Fig. 22.

in white light. But it is not sufficient that the color squares shall only show a deposit — that deposit must be correct. What about the luminosity? We may say that a plate is sensitive to pure yellow, orange or red, but in what proportion is it thus sensitive — is it more strongly sensitive to the yellow than the red or vice versa? Stronger sensitiveness is shown by a stronger deposit on a negative and on square No. 4 the deposit may be twice as deep as on the other two, therefore, at first thought, it might be supposed that this was conclusive, but it is not so; the *luminosity* of the color must be taken into account.

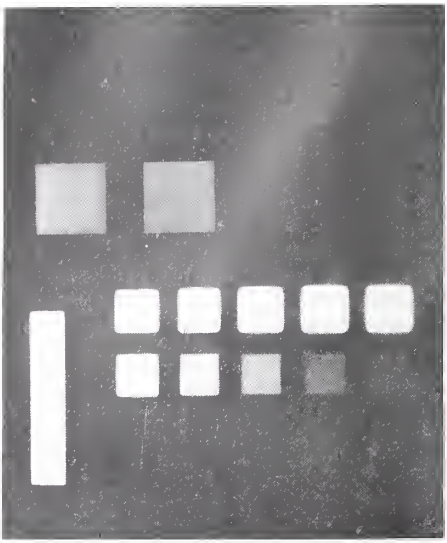
Now, as we know, yellow has a luminosity very much higher than orange or red; suppose we take the luminosity of this yellow as represented by ten units, while that of the red we may place at one, there being nine units difference between them; therefore, in judging the depth of deposits on these two squares we should have to make allowance for that variation before we would be able to make our deductions, entailing a vast amount of work before one could arrive at any reliable result, to say nothing of the photometrical apparatus necessary to make this deduction.

Happily there is an easier and better way of arranging all this on the instrument itself. The seven colors have been measured by means of a photometer, and the darkest color of the seven selected as unit — in this case the blue. The other six are very much brighter (or more luminous) than it, so one after another is compared with the blue, and their brightness (or luminosity) toned down, with a necessary amount of lampblack in gelatin, until they are in perfect agreement with the unit blue. The red square, No. 1, requires the least amount of lampblack, while the yellow-red, No. 4, requires the most. Finally the white square is taken (No. 8) and gray is added, until it, too, corresponds to the luminosity of the others. Of course this gives but the merest outline of the work necessary to reduce these nine squares to equality of brightness, and when finished each will appear dull and dingy in hue (simply because their luminosity is so low), but should they be placed in the path of a beam of very intense white light then they show in their purity. In ordinary light the square No. 8 (white) will look particularly dull, showing a very dark gray, but if the adjustment has been perfectly and conscientiously carried out there will be no error. The essential point is that each square must transmit nothing but the single band of color it is intended to pass — the green and blue must pass no red, nor the red any blue, nor must the colors overlap greatly. Spectroscopic adjustment is an *absolute necessity.*

Now, having all color squares reduced to equal luminosity, it is a simple thing to make a comparatively exhaustive test in a few minutes. Given a plate sensitive to all rays of the spectrum (were it possible) it should, upon development, show a deposit on every color square. Greater sensitiveness to any particular region will be indicated by stronger deposit upon the particular square corresponding to that region.

If it be desired to test any particular screen or ray filter all that is necessary is to first pass the light through the screen or filter before it strikes the sensitometer, and if the result is not satisfactory, when the plate is developed it shows just what is wrong, and how to remedy this trouble. A perfect adjustment between screen and plate (*for pure color*) will be shown by an equality of deposit on each of the nine squares. If No. 7 (blue), for example, is not represented on the negative then your screen cuts off too much of the blue and should be lightened, while if it shows too great a deposit upon the yellow then blue must be added to the screen. In short, whenever a color shows too strongly it indicates the necessity for the addition of a dye complementary to the color out of adjustment, while if a square show a weak deposit or none at all it shows that a reduction is needed of the color complementary to the square in question.

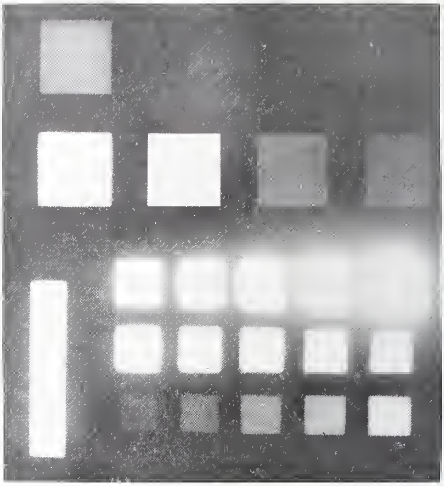
It will be noted that I have stated that this is correct for pure color, but it does not follow that a filter perfectly adjusted to this end will be correct for ordinary work, that is, landscape or gen-



Ilford process plate. 4 min.

FIG. 23.

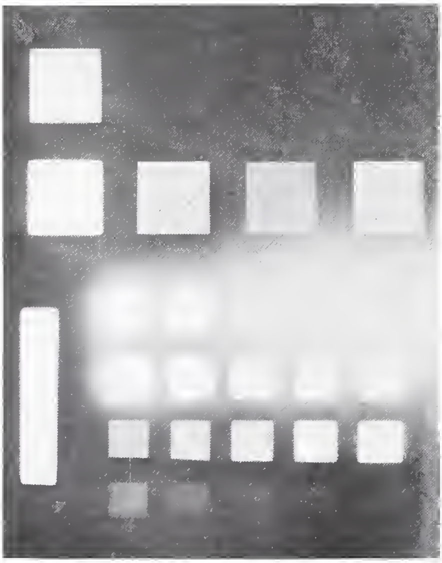
eral photography. On the contrary it would be decidedly wrong, for it must be remembered that the colors in nature are not monochromatic or pure, but mixtures, together with a certain amount of white light, allowance for which must be made in the filter. Thus a screen which would be correct for reflected "natural" color would cut off the blue square entirely in the sensitometer print, depending for the amount of deposit on the presence of that reflected white light just alluded to.



Hammer isochromatic. 1 min.

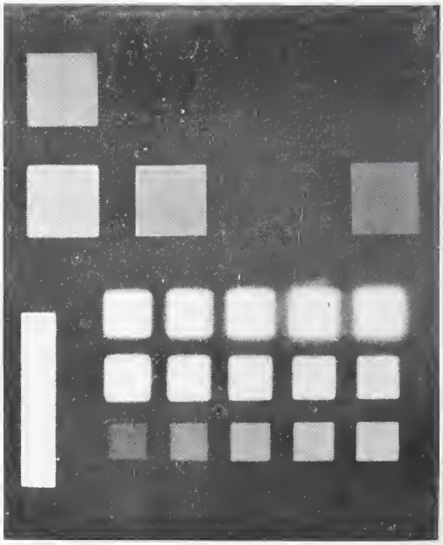
FIG. 25.

The instrument places in the hands of the tyro what is equal to an advanced education in photospectroscopy minus the time, apparatus and expense. It



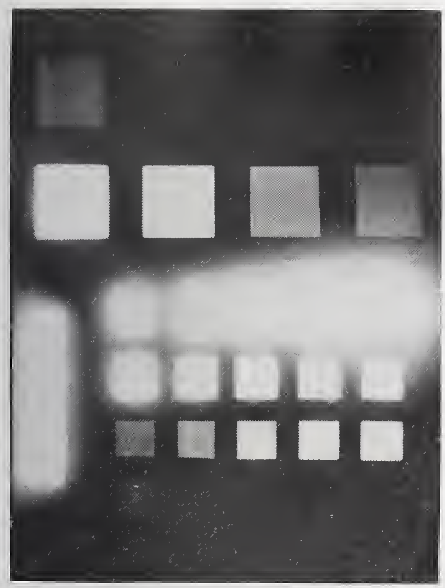
Cramer slow iso. 3½ min.

FIG. 24.



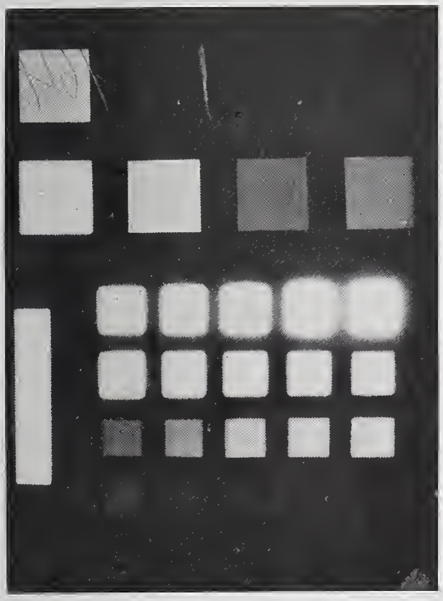
Cramer inst. iso. 45 sec.

FIG. 26.

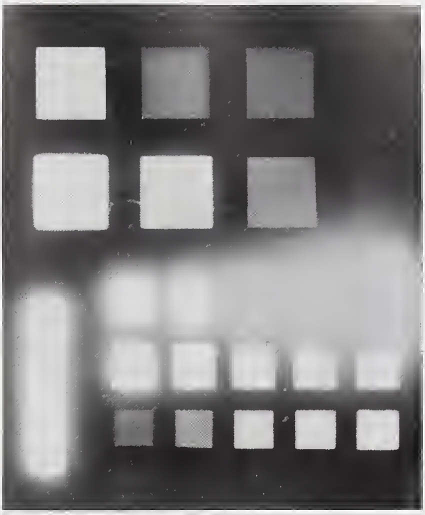


Standard ortho. 1 min.
FIG. 27.

would be folly for the non-scientific worker to attempt the manufacture of such an instrument, for an error in the color transmission of any of the squares would, of course, vitiate the value of the sensitometer.

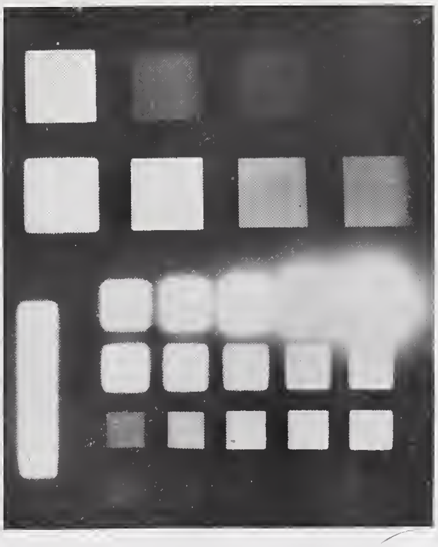


Seed L. ortho. 1 min.
FIG. 28.

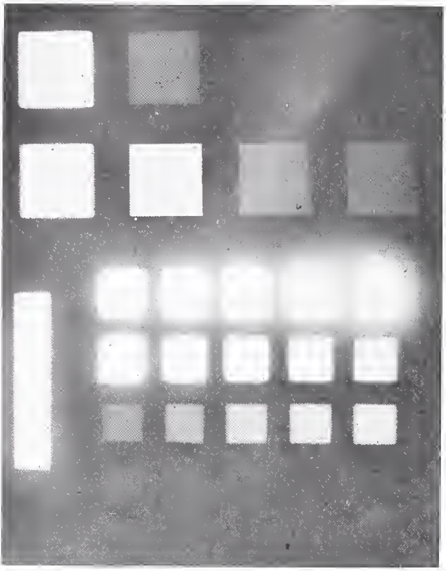


Lovell C. D. 45 sec.
FIG. 29

In making tests of various plates it is absolutely necessary that they get the same amount of *light action,* not of exposure, for exposure and light action are not synonymous terms. We may expose a Cramer Slow Iso for two minutes on a certain subject and then with

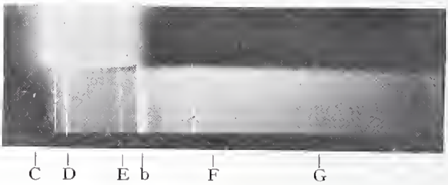


Carbutt polychromatic. 1 min. 30 sec.
FIG. 30.



Cadett spectrum. 45 sec.

FIG. 31.



Cadett spectrum plate and Cadett "Absolutus" filter, with twenty times normal exposure.

FIG. 18a.

exactly similar conditions expose an Instantaneous Iso or a Seed 27 for the same time and get entirely different results. The correct time for one would be wrong for the other. So that what is wanted is *equality of light action.* If we give sixty seconds exposure to Cramer Slow Iso through the sensitometer and develop, we find, besides the color patch deposits, certain others under the density (or exposure) squares (1 to 20) say, up to No. 12; then what is required is that when we make a test of the Cramer Instantaneous Iso, Seed Ortho, or any other plate, we shall so expose that upon development under the same conditions as at first we get deposit upon No. 12, thereby showing that the same amount of light action has occurred upon the plate.

Negative by W. S. Gerts, Chicago.

NIAGARA FALLS.

The writer is aware that this method of obtaining a light equality record is not scientifically correct. There is only one method which is absolute, namely, by the use of a spectographic instrument, for it is a fact that a certain make of plate will differ from another in its speed values simply because of a difference in color sensitiveness. However, for all practical purposes, the test as given by the sensitometer is sufficient.

A word more about these latter squares. They also show the action or adaptability of a developer (or plate) to differentiation of each unit of shade, as represented by the varying thicknesses of deposit, which conditions are best conducive to clearness and which to halation. (See illustrations, Figs. 21 to 31.)

To the ordinary worker they serve to register the action of any particular anti-halation backing under extremes of light and shade, while to the color worker, or more advanced student, the color patches also stand as indicators of the value of that backing in its adaptability to colorwork, while to all the absence of deposit under any particular color square with the maximum of exposure indicates the light transmitted by that patch as being a "safe-light" for development of the plate under test.

Compare any of the illustrations throughout this chapter with the actual spectrum photographs which have preceded them, and observe the extent of the absorption, while all the troublesome and vexing luminosity questions are forever laid at rest.

R. James Wallace.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

April 17, 1902.

Photo-Beacon, Chicago, Ill.:

Gentlemen,— I am pleased to report that prospects for the convention of the Photographers' Association of America, to be held in Buffalo, August 5 to 8, are most flattering.

By an early start the executive officers made it possible to accomplish great good already. The interest shown by manufacturers and dealers is good indication of what we may expect at the convention.

The photographers of the country were never more enthusiastic than they are this year. It seems that everybody has the impression that the Buffalo convention will be the best and greatest in the history of the association, and from the interest manifested and the correspondence received the attendance will certainly be very large.

The feature of one day for the manufacturers and dealers is creating great interest from that quarter, and the plan of making this convention thoroughly practical, and the promise of exhibits from all the leading workmen of the country, augurs well for the success of the 1902 convention.

We have secured a railroad rate of one and one-third fare, on the certificate plan. Hotels have made liberal concessions in rates, which will be appreciated by our members.

The hall is the best we have ever been able to secure in the way of light, ventilation and size.

The association is issuing a souvenir program of about eighty pages, finely illustrated with photogravures, which will contain the names and addresses of all the members. We expect to have this ready and will mail a copy to each member thirty days before the convention.

In my next communication I will give you hotel rates and all such information that will be of interest to your readers.

Yours truly,
C. R. Reeves,
Secretary.

A JOURNALISTIC CHANGE.

Editor Photo-Beacon, Tribune building,
Chicago, Ill.:

Dear Sir,—Will you kindly note in the next issue of your magazine that owing to the consolidation of Messrs. E. & H. T. Anthony and The Scovill & Adams Company, the *Photographic Times* and *Anthony's Photographic Bulletin* will, beginning with the May issue, be published as one magazine, under the title, the *Photographic Times-Bulletin.* Many important changes and improvements will be made very shortly. The subscription price will remain the same as for the *Photographic Times,* namely, $2 per annum.

Thanking you in advance, I remain,
Yours very truly,
Walter E. Woodbury.

LETTERS TO THE EDITOR.

May 13, 1902.

Mr. F. Dundas Todd:

Dear Sir,— I can not refrain from writing to express my appreciation of your article in the April number of The Photo-Beacon on "Visualizing." I was very much excited over that article, for it comes so near home. I am one of that type and so I can bear out what you say from actual experience.

You say you have not decided whether we are fortunate or unfortunate. I can assure you we are the most unfortunate beings in the world, in this age. If you could see the mental pain I suffer and have suffered you would not be uncertain on this point, and the fact that the conditions are rapidly growing worse makes my statement terribly significant. The whole world is against us. The spirit of the times is directly antagonistic to us, and is growing more so every day. There is simply no hope for us, and I believe our type must become extinct at no distant day, unless the trend of public opinion takes a very decided turn. This is a wholly materialistic age—an age whose most characteristic work is the worship of money, of power and of material accomplishments. Such things as character, spiritual development, the beautiful, etc., are becoming extinct. They mean nothing to most men now. Thus a great gulf is growing between "the type" and the world, and, according to your article in the May Photo-Beacon, we must die; we can not conform to our environment, because our environment is so hostile and antagonistic to us. And so we are actually driven, forced into visualizing — we are forced to create an environment of our own in which we can live. It is an effort of the mind or the soul to preserve our sanity. And so a second cause widens the gulf; but, deeper than either of these, is another one, namely, the generic difference between the type and the world. We are born so; there is no comparison between us and the public, for the same reason there is no comparison between an oil painting and a photograph. The world can not see as we see, can not understand as we understand, and we can not see or understand as they do. This is the final and insurmountable difficulty. My closest and dearest friend has repeatedly said to me that to do the things I do for enjoyment is regarded by the people as a punishment and a penance, namely, to walk miles through snow and icy winds to see the prismatic colors flashing like gems from the snow crystals, or to walk miles in the cold, bleak rain to see the flowers smiling and rejoicing in the generous rain and to see the beautiful bloom of distant wood and hill like the bloom on grapes; the perfect spheres of the rain-drops clinging to the horizontal branches of the hawthorne and willow; the reflections of old trees in pools and puddles where erstwhile was dry land. To wander through fields and woods and bogs for pleasure is to most people too astounding to be true! They do not believe we do it for pleasure. They do not understand, and so they ridicule. And oh! the pain of that ridicule. I shall never forget one occasion where I was cursed and insulted shamefully just because I was sketching a landscape. You would have thought I was the vilest of men because I admired a landscape. And so I never speak to any one about nature. I never tell them why I am in the fields or woods. They would say, "How crazy he is! When he might be drinking in Branigan's saloon, or reading a novel, or planning new ways to make a dollar. Why, the man must be a fool to waste his time looking at flowers and trees and clouds — yes, he must be a fool." And, Mr. Todd, do you know, I am beginning to believe we are fools (editorial we!). I suspect we are degenerates. We are undeveloped. Children in adult dress. Is it not, after all, childish to be so pleased by nature? Is it not a recrudescence from former ages, say the Dark Ages, when men feared nature? And so we are a degeneration to former times? Is it not, after all, a small mind that, so to speak, has time to see the beauty in the flash of color from snow crystals and rain-drop? Is it not more natural to be concerned with great ships, great machines, affairs of state, or the intricacies of the calculus, than the great breathing, living spirit that lurks in nature, that causes a sense of unworthiness when we come face to face with it, in the great forest, in the towering battlements of snowy-clad mountains, in the vast blue field of ocean, as well as in the inscrutable mystery of life that thrills in all the world about us, the wonderful beauty that nature wears, the glory of the sunlight? you say about the survival of the fittest be true, death to such feelings is our only hope. After all this suffering I have at last resigned myself to the prospect of either insanity or, at the best, nervous prostration. Long ago I gave up the idea of being understood, and now I am almost reconciled to the prospect of continual pain from the world. But I know this can not go on forever; something must give way, and the whole world against one tells what must go. Besides, it is not right to have to live the lonely life we have to. We have nature, it is true, and we write in our diary, and read a few books like those by Thoreau, Emerson, Ruskin, Burroughs, Wordsworth, but we are human and we need human sympathy and love and understanding. Ah, what a world this is, so strange, so great, so lonely!

Negative by W. N. Danvers, St. Louis, Mo.

SNIPE SHOOTING.

Oh, Mr. Todd, a man whose heart and mind thrills to the touch of these things can not be a fool, can he? He is not a degenerate, is he? He is not worthy of the sneers and curses of his fellow men, is he? But in this age and environment he is the most unfortunate of all men, is it not so? Fortunate for us that we learn these things by degrees. But oh, what a lot of pain it takes to learn it. You wrote truly when you say it was such that "the whole machine must go to pieces, or the mental balance be overthrown." Many a time have I thought I had reached the last limit of endurance, that the appreciation of nature had been killed by an unexpected contact with the world, and, Mr. Todd, if what

I guess you will see, Mr. Todd, that I spoke truly when I said your article had excited me. I have not told you one-tenth of the things that article stirred up, but I must not bore you any longer. I thought you might be pleased to know how close and deep you shot when you wrote that article on visualizing.

And you can easily guess that your last article on environment was not so agreeable to me. In fact, it aroused all my fighting blood, which is considerable, being well developed from my constant practice with the world. By heavens! I will not adapt myself to this present environment! I will not! I will not! I will not! So there! I do not believe in it! It is a mistake, Mr. Todd; it is not an advance. We are going backward. Material prosperity is dangerous, it is fatal. I look for a terrible reaction. I believe we are nearing an awful calamity. This can not go on. We can not keep up this pace. We can not keep up this modern nervous strain much longer. And we can not set aside the spiritual life so flippantly as we are doing. A reaction *must* come. Why, I see every day, Mr. Todd, people who are mere machines — they seem to have no more individuality or mind than a cog-wheel. They are slaves. And how much they have lost! They remind me of oxen — great, patient creatures, more like vegetables than human beings! It is not a flattering comparison, I know, and I am tempted to apologize for making it. But it is not wholly their fault; they have accepted their environment, but I never will! I never will! I never will! Kill me if you must! Torture me, crush me at last, but so long as I can I will fight for my liberty, my character, my spiritual life. What do you think of this, Mr. Todd? No doubt you will begin to believe that my idea of the type being degenerate is true, if I am any kind of a specimen of it. But, Mr. Todd, do not you see what I am driving at? It is that these confounded trusts, this material prosperity, this trend of modern life, is such as to destroy our spiritual life, our true individuality. We are rapidly moving to a condition of — well, where we are all as much alike as two peas. Just as the ultimate state of the universe is one of uniform temperature, so the operation of the idea of the survival of the fittest will be the elimination of individual character — there will be a trust in character.

Oh, why does not some one arise and preach the gospel of character, of spiritual life? Why do you not preach an anti-materialistic creed? Why not tell the world that there are things in life infinitely more than money, than new houses, with steam heat and electric light and telephones and all the pie and pudding and candy — yes, and meat, too! Tell them that there is a living world beside them, that there is a life open to them, a life so pure, so wonderful, so beautiful, that they can never grasp it fully. Tell them that there are such things as character, and noble impulses, and spiritual growth, and these are such that money is but chaff from the wheat in comparison.

Well, I have, I am afraid, talked you to death, and made you believe in the eternal foolishness of the type! I feel like a voice crying in the wilderness, but oh, if I could reach the people and put these things before them, put life into them — for they are dead souls — open their eyes, show them they have a spiritual life.

I must bring it a little nearer home, too. Perhaps, though, you do not believe as I do in these things. But I can see in your magazine the tendency of the age. It is especially in the awarding of the prizes that it appears. I am glad to know that you do not award the prizes. But, of course, your magazine is intended for amateurs. But there is a decidedly materialistic tone about it. Now, Mr. Todd, I shall never believe that you can make an artist out of the letter S, or any other letter or shape! What is the use of eternally dinging the letter S into the poor amateurs? And all this about "spacing" and "triangles" — I do not believe in it. Good gracious, is art a mathematical problem? Why, anybody, even a cog-wheel, can go out and scare up a "composition" with the letter S "arrangement." But it is too simple to be even argued about. Why do you not leave out all this materialistic point of view? Why do you not develop the poor amateur's soul? Why do you not tell him that art is not a matter of intellect so much as of the heart? Why do you not show him how to become an artist himself instead of how to make "compositions of the letter S"? Why not judge his pictures on the ground of feeling; of their spiritual worth? Of what they represent of the great eternal, of a "presence that disturbs us with the joy of elevated thoughts, a sense sublime of something far more deeply interfused, whose dwelling is the light of setting suns, and the round ocean and the living air and the blue sky, and in the heart of man; a motion and a spirit that impels all thinking things, all objects of all thought, and rolls through all things."

Mr. Todd, would it not be better to teach these things to the world than "compositions founded on the beautiful S line" and on the triangle?

I hope you will pardon me if I have spoken too strongly at any point. I can not tell you how much I enjoy your articles in The Photo-Beacon. I wish I could know you more personally. I hope some day to read your book on "What Are We Here For?" I know it must be good. And I hope some day to have a chance to point the way to the readers of The Photo-Beacon along the lines I have spoken of above. I have an idea of how to go about it, but perhaps it is not practical.

I hope you will not be offended, and that you will not think me too great a "crank." R. G. P.

Mr. Todd:

Dear Sir,—Although you may not thank me or take the time to read my complaint, I am, after just reading in the April Beacon your article on "Visualizing," going to unload a little overwrought sensibility upon your head.

I am as sensitive as you describe the boy in "The House with Green Shutters," and I am, unfortunately, in the photograph business. You say you know of no pursuit so well fitted to draw out the best in a "sensitive" as amateur photography, and I say I know of no profession in which the same "sensitive" can be made to suffer so keenly from the asinine criticisms of characters to whom nature has denied the artistic sense—and their name is legion—as photography. This is all; and if any truly artistic and sensitive soul, tied to the photo business, reads these few lines, to him they are a volume.

I am going to quit. In a few short months I shall have dropped a very successful career as a photographer and retired to grub out a living on a farm, where I can have freedom from the criticisms of the conceited dolt who can make money.

Yours truly,
A Visualizer.

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

CHAPTER XVIII.

GROWTH.

I remember, on awakening one sleepy Sunday afternoon, my room darkened by heavy green paper shades, closely rolled down, my surprise at seeing upon the wall at the foot of my bed — on a clean, whitewashed wall, a miniature cow walking leisurely along, every motion, even to the swish of her tail, as natural as possible. I could not account for it — the image was distinct and clear. She was walking upside down, her feet toward the ceiling of the room and her back toward the floor. I wondered if I could be dreaming, or from what the illusion could be caused.

I had never seen or heard of such a manifestation before. I hurriedly got off the bed to investigate, pulled the curtain aside and looked out upon the street — there was the cow moving contentedly along unmindful of the exhibition she had given me or the mystery I was in about her. She had demonstrated the principle of the camera obscura and of pinhole photography. There was, as I found, a hole the size of a pin-head through the paper shade, located near the center, through which had been carried the image of "bossy" as through a lens.

The reversal of the image I was conversant with from the use of the camera, and by it was helped to an understanding of the upside-down cow phenomena.

I knew so little and there was so much

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* Copyright, 1901, by James F. Ryder.

to learn I studied diligently. I studied and dreamed, was always wondering what might be the future for the young art of photography. I wondered if it might ever happen that portrait heads the size of life would be made with a camera — wondered if the Voigtlander family would develop a giant which might compass such a feat.

Looking back to those days of my wonderings, and comparing them with the present, it all seems like a fairy story.

Infants which were brought to me for daguerreotypes in turn brought their own infants and again their grandchildren. I have taken groups of four generations, the individual members of which I had taken singly along in the years since 1850.

The discovery of Daguerre was indeed a blessing to humanity. It brought the true likeness of our friends into our homes — into our very hands. The little tot with blond hair, with serious or smiling face, who from boyhood had grown, is now the substantial man of affairs, or perhaps has been gathered to his fathers. The little maid in the bread-and-butter period of life, braids of hair down each shoulder, with her doll or kitten in her arms, who knows naught of a wicked world, goes to school with her first reader and her slate; comes home hungry and gets her slice of bread and butter spread with sugar, the child without care, the confiding, affectionate, demure little "mouse of the cupboard," is now the mother, possibly the grandmother of some one who loves that old daguerreotype.

The thousands of likenesses of fathers, mothers, brothers and sisters stored carefully away in bureau drawers to be taken out and looked at to awaken recollections, to stir hearts and sometimes start tears, the tender histories twining about them, the untold value of the precious keepsakes, all stand in evidence of the worth of the blessed discovery.

I recall an instance of a gentleman who, many years ago, brought in to have copied a picture of a little boy who had passed out of earth life. He impressed upon me the requirement of great care. "Let nothing happen to that picture," he said, "all the gold in California could not buy it."

I assured him that I would take the greatest care that no harm came to it. I kept it carefully locked in my safe. I felt he had entrusted me with a responsibility that was burdensome, because of the great value he attached to the picture. I was anxious he should call and take it away. Some days after I had the copy completed and ready for delivery I met him upon the street, and very glad I was to see him. I told him his little boy's picture was ready for him and I wanted him to call and get it. He said, "Yes, I will call to-morrow," and added, "Nothing has happened to the original picture? You are sure, for all the gold in California could not buy it."

I assured him the picture was all right, rejoicing to myself that it was to be delivered on the morrow.

He did not happen to come. It was several weeks before I saw him again — this time, as before, upon the street. I stopped him and told him again I was very anxious to deliver that picture. He said he had been quite busy and I must excuse him, but he would be in to-morrow *sure* and get it.

I suppose he must have been very busy again, for he did not come. As the years passed by and the picture was occasionally picked up and examined while looking for some other one, we all, my employes as well as myself, grew to know it as surpassing in value all the gold in California. In the course of time we got quite an accumulation of such pictures, which the owners "would call for again," but none whose value quite approached the little boy's.

Daguerre planted the seed of practical and valuable photography. It had swelled, sprouted and burst through into the light and was reaching for growth. Scientific investigators bent friendly gaze upon it, patted it upon the head in encouragement, watered its roots, fertilized the soil surrounding and sustaining it. A promising, hardy shrub it had grown to be, and was destined to bear good fruit upon branches springing from a noble trunk.

It offered to students in science a fascinating pleasure and interest. Like a child who wearies with a toy, many who treated it as a plaything dropped it for more congenial pursuits, while others who got their fingers stained in earnest stuck to it and became photographers.

Negative by Wm. L. Page, Chicago.

APRIL.

Now came a step in evolution. We were soon to lay aside present methods and formulas for a radical departure to a presumable improvement.

Scott Archer, of England, a prominent scientific investigator and experimentalist, discovered and introduced collodion as a vehicle in which to form and carry the photographic image upon a plate of glass instead of a plate of copper faced with silver, as had been practiced by all followers of Daguerre from the time of his discovery-invention.

In the daguerreotype the sensitive principle was secured and produced as has been described in foregoing pages, by vapors of iodine and bromine uniting and combining upon the silver surface plate. In the production of a negative on an ambrotype by means of collodion each step in the process was produced by the employment of fluids, while the principle of sensitive creation and chemical phenomena, bromoiodide of silver were identical, the means of production were different from the daguerreotype. For every likeness made a separate and distinct sitting was required. A person wanting a number of likenesses for distribution had quite a task in securing them.

I remember when Jenny Lind sang in Cleveland Mr. Johnson secured a sitting of her. The demand for her pictures was large and the original daguerreotype had to be copied one at a time for all these pictures. It was a part of my work to do them. I made quite an acquaintance with her in the performance of this daily work.

The advantage of adopting the negative plate as a substitute was that on securing a successful image from the sitter or any object to be taken, there could be reproduced upon paper any number of prints desired, thus saving the presence of the sitter and the avoidance of imposing a heavy task upon him. Just think of it! Why, the sitter might be in an adjoining State and we be printing pictures of him in his absence. Gracious goodness! What are we coming to? It may come to pass yet that pictures be taken of people without their knowing or suspecting it. Surely we are in an age of progress and astonishments.

The collodion problem was undergoing experiments in the hands of scientists and experts abroad.

The American photographer is indebted largely to his European brother for much of his knowledge and progress — the European is interested and more patient as an investigator. By his patience, thoroughness and diligence he accomplishes in his own time and way what the "hurry up" American abandons too readily. We get from Europe much which has been patiently worked out and proven by the discoverer or adapter. We get things ready made. We sometimes pick up the thread in the seam where our patient cousin was taking a rest, and make a push to oust him.

I HAVE been a subscriber to THE PHOTO-BEACON for two years, and it is the most interesting publication I receive.

MY EXPERIMENTS.

NO. VIII.

PLATINUM.

Although at various times I have made experiments with about every process of photography except the manufacture of dry-plates, none of the experiments interested me as much as those that had some branch or other of platinotype-making as the goal.

I have made developing paper by soaking the ordinary printing-out papers in a solution of potassium bromide and then, after well washing and drying them, had fair success with them by gaslight and the ordinary developers. I have soaked silk in a solution of bromide of potassium, taking ten grains of bromide to the ounce of water and beating the whites of two eggs into a quart of it, and then, after floating the silk on that solution and drying it, floated it on a solution of water, nitrate of silver and citric acid (30 grains of silver and 10 grains of acid to the ounce), and by performing the latter operation and subsequently drying the cloth in the darkroom, was able to get fair prints on it by gaslight followed by a hydroquinone developer containing more sulphite than carbonate and well loaded with bromide.

I also know of a young fellow in Duluth who changed some plates out in an open field. He opened the dry-plate box under his hat and made the change in the same place. He thought it was safe because he could not see the plates. He was wrong, even if it was a black felt hat.

No, I was not he — this was not one of my experiments.

I mentioned in one of my former letters that I once bought a book that Captain Abney and his *Fidus Achates,* Lyonel Clark, wrote. This was true when I wrote it and it is still true — I bought it from Charley Stevens in the old days of the Chicago Photo Stock Company. It was and still is a good book, though my copy of it looks like a "fan's" score-card after a fourteen-inning game with lots of runs.

It is not an economical book to own— not if you are an experimentalist. It is full of formulæ, and every one of them calls for the use of more or less platinum—generally more. I ran out of new clothes while I was reading that book and it was quite a while before I could buy any more.

They tell you how to make platinum in the bath paper, platinum in the paper paper, and modifications of and combinations of the two, and—platinum every time.

Platinum, the chloroplatinite thereof, costs $12 per ounce of 437½ grains, and it takes from 15 to 30 grains of it every time that you get to thinking about it.

The cheapest way to experiment with platinotype paper is to buy the ready-prepared article and use it with discretion, but it is not so interesting that way as it is to make it up for yourself.

Once while I was working down the list of Captain Abney's formulæ I got some cheap platinum. I had a friend in the Welsbach business and he handed me a large bunch of platinum wires that had once been mantle fixtures. I made things enjoyable for a whole neighborhood by boiling those wires in nitro-muriatic acid, evaporating it, taking it up with distilled water, filtering it, converting it into chloroplatinate by adding a sufficiency of potassium chloride, and then reducing the *-ate* to the *-ite* by boiling it for twenty-five minutes with the requisite amount of acid potassium sulphite in the way that the captain suggested.

If any of you try this you will know where the neighborhood got its joy. I did my work in a laboratory that I had fitted up in the hindquarters of a drug store, and I did not have an adequate fume chamber. Louis (he was the druggist) was not a very strict church member, and he made several quotations in a rapid and eloquent manner. I spent four evenings on the job; Louis said that he lost $10 worth of trade while the fog lasted — and it lasted every night. I am still buying cigars for the Welsbach man (about $60 worth by now), and I netted a little over six drams of chloroplatinite of potassium.

This was cheap (?) platinum.

I am not advising any of you to try this experiment. This one is the sign-post of evasion, so to speak — it is one of the cases where the experiment is related as an inducement to you to avoid doing the same; but if, in spite of that, any of you feel like doing some of it, you may be unable, as I was, to readily obtain the acid sulphite, and may have to make it. I could not even get the normal sulphite and had to make the whole thing, starting from potassium carbonate and a lump of brimstone.

If, however, come to think of it, you are going against it right from the beginning, you will be pretty fair chemists anyway, and I need only state that you pass SO_2 gas through the carbonate solution until all the effervescence ceases (keeping the solution well warmed on a water bath meanwhile), and for, say, ten minutes longer.

You can readily calculate the amount of acid sulphite obtained and then proceed with the reduction of the chloroplatinate by boiling the following compound for precisely twenty-five minutes:

Water	300 cc.
Potassium chloroplatinate ($2KCl, PtCl_4$)	24 gm.
Potassium chloride	12 gm.
Potassium acid sulphite ($KHSO_3$)	12 gm.

The boiling should be done in a porcelain dish and it should be heated on a sand bath.

The result of this ebullition will be a solution—nice, ruby-colored solution—of chloroplatinite of potassium, which will be found to be pure enough for photographic purposes.

I am only allowed to use one thousand words of BEACON space at one time, so I will tell you about making the platinotype papers next time.

RALPH MARTIN.

THE INTERNATIONAL PRINT EXCHANGE, an organization for the exchanging of pictures by amateur photographers all over the world, has been organized. The president is George W. Kirkland, Denver, Colorado; vice-president, A. F. Brown, Acton, Ontario, Canada; secretary, Theo. A. Hunter, Greensburg, Kentucky. Full particulars can be had on application to the latter gentleman.

EDITORIAL TABLE.

E. W. Newcomb, Bible House, New York, has just issued a very daintily gotten up catalogue of the specialties manufactured by him. Copy can be had on application.

Burke & James, 118 West Jackson boulevard, Chicago, have just issued spotting colors for spotting negatives and prints, in a very ingenious form, at the very reasonable price of 15 cents.

From Hirsch & Kaiser, San Francisco, California, we have received a copy of the second edition of their catalogue, which applies to the current year. We find in it very full description of all the cameras and other accessories that one can ever possibly find use for in photography. Copies can be received on application.

Voigtlaender & Son Optical Company, 137 West Twenty-third street, New York, N. Y., have just issued a very interesting booklet regarding the Collinear Lens, in which will be found very plainly stated the points of difference between this lens and that of the ordinary type. Copies can be had on application.

The Illinois College of Photography, Effingham, Illinois, has just issued its prospectus for the current year. It is a handsomely gotten up book, very thoroughly illustrated, showing the buildings, lecture-rooms and laboratories of the institution and giving full particulars of the course of study and the methods of instruction followed.

From C. P. Goerz, 52 Union square, New York city, New York, comes a copy of the stenographer's minutes taken before the board of the United States General Appraisers in the matter of reappraisements on lenses imported by C. P. Goerz, which proves to be very interesting reading, more particularly as showing the great amount of care and skill that is necessary to the perfect combination of the component parts of a modern lens.

A New Company on an Old Foundation.—John Carbutt, Wayne Junction, pioneer dry-plate maker of America (1878), and the first to introduce nearly every variety of plates and films now on the market, has recently transformed his business into a corporation with his two sons, John E. Carbutt and Robert E. Carbutt, under the title of "The Carbutt Dry-Plate and Film Company, of Philadelphia." Officers: John Carbutt, president; J. E. Carbutt, vice-president and treasurer; Robert F. Carbutt, secretary. Capital stock, $150,000, full-paid and non-assessable. The company will continue the manufacture of the various photographic products introduced by Mr. Carbutt, especially those pertaining to three-color photography and his now famous Vinco Developing Paper.

The Voigtlaender & Son Optical Company tell us that while there is a remarkably large demand for the Collinear Lens for hand cameras of all kinds, and also for outdoor professional view work, the number of professional photographers who are buying their Series II Collinears, from No. 7 up, for portraiture, mainly groups in the studio, is surprisingly large and increasing daily. It is no doubt due to the speed of the lens. This, it will be remembered, will easily work with full opening under the light, while portrait lenses have all got to be stopped down. The Voigtlaender & Son Optical Company are preparing a new catalogue which will contain a new series of lenses for photo-mechanical work, and are publishing also a number of interesting pamphlets telling the advantages of their lens.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

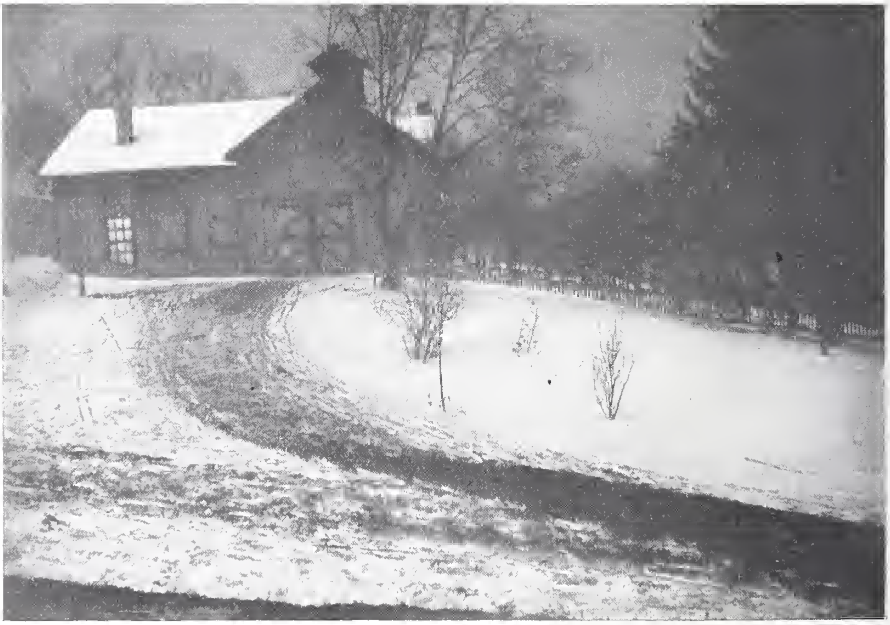
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Negative by W. H. Driggs, Moline, Ill.

TAKEN AT NIGHT BY MOONLIGHT.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. JULY, 1902. No. 7.

CEREBRAL WHEELS.

I think I am perfectly justified in believing that every one of my readers has at least one "wheel" in his head — by which term is popularly understood the idea that the individual so afflicted has an illusion or delusion along some particular line or lines, that while he is a perfectly rational animal on most things, he is the victim of hallucination in at least one direction. The term is apt to be used as one of contempt, but scientific investigation of recent years has tended more and more to prove that human progress has been based more upon illusion than upon any other single factor. When we look back upon the history of the world we find that every race has at one time or another been caught up in a wave of unreasoning sentiment and that, while under the influence of this wave it has been utterly regardless of consequences, sacrificing its best lives at the shrine of the illusion. But in endeavoring to accomplish what to them was a very real purpose the tremendous impetus carried them over thousands of seemingly insurmountable obstacles, until they attained a destination they had never dreamed of at the beginning of their career. It is really immaterial as to what the illusion may be, whether the cult of ancient Rome, the religion of Mohammed, the dream of Peter the Hermit resolving itself into the crusades — all are alike, and becoming very real to the members of the race, result in action whose outcome is something tremendous, because while the hallucination lasts the word fail does not occur in their bright lexicon.

In the popular speech of to-day these illusions would be called wheels of the most gigantic type, because no member of the race is uninfluenced by the sentiment. In our own country, if we survey dispassionately, we have to confess that such a wave of sentiment is influencing the American people to-day. Until the blowing up of the Maine, American thought was centered entirely upon the development of the resources within the four boundaries of the country, and every effort was exerted along that particular channel. In a moment, as it were, at least in a day, the American nation was reborn and realized that after all it was a world power, unable to isolate itself from the other countries of the world. Now her gaze is directed outward; she has acquired territory beyond the seas, and the national mind is incessantly engaged in devising plans whereby the commercial supremacy of the entire globe can be transferred to her hands. What the outcome can be it is simply impossible to guess, as so many thousand influences are at work in every corner of this earth of ours. But one thing can be safely prophesied, if the past experience of the world be any criterion, the final result will be very different from what even the shrewdest inhabitant of this continent supposes it will be.

But nations are aggregates of individuals, each being influenced by some particular illusion or sentiment, which compels him to move forward in a particular direction so long as he is controlled by it. With some the illusion is the desire to amass wealth, believing that once a certain sum has been attained perfect happiness would be the outcome. In their efforts to accumulate the pile, vast schemes are projected and set agoing, all of which ultimately redound, more or less to the well-being of the other members of the race, but even when it does result in great wealth, the individual finds that the expected happiness has not materialized. Others have an illusion that it is possible for them to shine in literature, in art or in society, and while they struggle to attain the coveted position they are supremely happy, although sometimes the disappointment that almost invariably results may overbalance the pleasure of the past.

Illusions, then, are evidently a part of our constitution, and it is wisdom for us to realize that such is the case and to utilize them. Instead of laughing at the man who has got a wheel in his head, he ought to be congratulated, for he carries along with him a source of inevitable happiness, and is therefore to be envied. The man without a wheel is the most lonesome, and is apt to be disgruntled. It would be wisdom on the part of his friends to get together and endeavor to supply him with one, and thus utilize the forces that are running to waste.

Perhaps a more classical word for wheel is hobby. It has been well said that the difference between a hobby horse and a hobby is this — that while a man can get off the former, he can not get off the latter, and this is true so long as it is interesting. I speak on this subject with great experience, for since my earliest boyhood days, I have had always at least one good going hobby on hand, and sometimes two or three, and while the enthusiasm lasts I do not believe there is a happier individual on earth than I am, but of course in due time I become satiated — had enough, and when that feeling comes over me, I at once look around for another and get it agoing with all celerity. One peculiar thing that I have learned in connection with my hobbies is this — that the dividing line in society is not based on money, as it is generally supposed to be, but upon hobbies. We all like the individuals who are interesting to us, that is to say, whose wheels belong to the same class as do ours. Whenever I get hold of a new fad, I want to associate with those similarly interested and, very naturally, I neglect my old friends and they just as willingly neglect me, and I take up with a new combination. This can be seen all the world over, even in churches. In orthodox bodies that have been long established and therefore pretty liberal in beliefs, there is little companionship among the members of the congregation, but in the smaller churches of recent beginning, where the creed depends upon the interpretation of some particular text or series of texts in the Bible, there will be found the closest kind of companionship; rich and poor, young and old, getting along very pleasantly together because they have some one interest in common which provides food for conversation, and they are, therefore, all interesting to each other. The rich man who owns an automobile, I find, does not care the least bit for my companionship, but the man whose wheel is photography, would, if I allowed him, monopolize all my time; in other words, I am interesting to him because I can talk and listen to him on subjects in which he is interested.

A list of the wheels that I have possessed at one time or another would rather startle some of my readers, but I know that they will not be surprised to learn that the one that has brought me the greatest amount of pleasure in the course of my life has been photography. Not only did it bring me great pleasure directly, but it led me into a thousand and one side issues that were extremely fascinating. At every turn it compelled me to study nature more and more, to learn its facts, to understand its laws. I was led to learn chemistry, physics, geology, botany, light; to study art, its composition, light and shade, tone values, color and philosophy. I have found it to be a gigantic wheel, which, if faith-fully followed, will result to the student in a mental culture that will develop the observing and thinking faculties, and one that is equal in many ways to a college education, for, after all, the university can not teach a man much more.

F. DUNDAS TODD.

PICTORIAL COMPETITION No. 49.

Exactly thirteen competitors entered in this contest. The number is a disappointingly small one and the work itself from the average individual was even more so.

For a considerable number of years I have kept this particular contest on the list simply because it is the only one in which the photographer's knowledge of composition and arrangement can be effectively shown, and I think if my readers fully appreciated the value of this line of study that every one of them would make an effort to take part. The first element of all pictorial work is composition, the breaking-up of a given space into smaller ones in a decorative way by means of natural objects; and in no way can this subject be studied better than by the use of flowers or by small branches. I sincerely hope, therefore, that for their own sake the readers of this journal will take special interest in Competition No. 52, and instead of thirteen competitors being found to have entered, that the number will be at least 1,300, and I know that, win or fail, one and all will thank me for pressing this matter upon their attention.

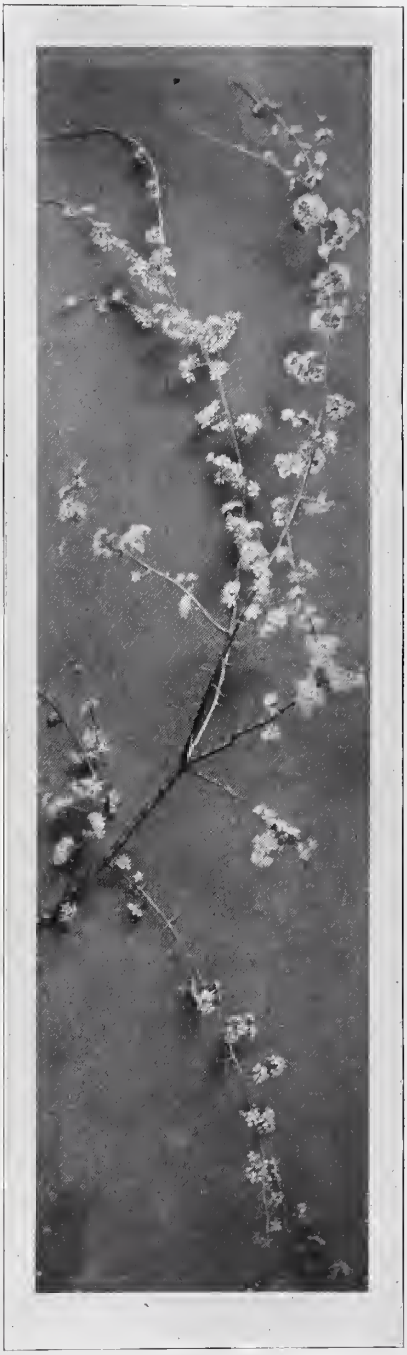
The following are the awards made by the judges:

First — Sara W. Holm, 617 Ohio street, Sedalia, Missouri.

Second — Henry Pearson, Taylorville, Illinois.

Third — Eugene Unger, 50 South Eddy street, San Francisco, California.

Some time ago one of the competitors suggested that in addition to the prize winners there be printed the names of the runners up, and believing the suggestion to be a good one, I decided to adopt it. But I regret very much to be compelled to say that out of the re-



Neg. by Sara W. Holm, Sedalia, Mo.

FIRST PRIZE.

maining prints sent in, only one deserves more than a passing notice. This one was made by George F. Manuel, San Francisco, California. All the others were exceedingly commonplace in character and indicated very plainly that the makers of them did not know the least thing about composition.

FUTURE COMPETITIONS.

Competition No. 51—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 52 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 53 — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55.— Landscapes and waterscapes. Closes November 30.

Competition No. 56 — Flower - pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.
2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.
3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER VII.

LIGHTING AND VALUES.

Before I go further in the treatment of larger arrangements, I will first retrace my steps and take up the subject of lighting, in relation to busts and half-length arrangements. Lighting is, perhaps, the most important feature of composition, and when it is properly manipulated, will make even a bad arrangement interesting.

The secret of the whole matter is variation. The same principles we applied to space and line will hold good in regard to light, by subduing the light on unimportant things and allowing full strength for the accents. In this way some things will be shrouded in mystery and our pictures will be far more suggestive than they would be if everything was out in full light.

In painting, one is forced to suggest things by the mere technical impossibility of painting all the detail in nature. Millet said he could suggest what he could not paint to save his neck, but in his masterly suggestion lies the greatness of his art.

Now, your position is quite the opposite. With the camera you can reproduce anything. But your great difficulty is being able to only suggest certain unimportant things and avoid the brutal realism of a photographic lens. The suggestive element, or, in other words, that something in a picture that appeals to the imagination, is the characteristic feature of any great piece of music, literature or painting, and if a photograph is to climb into the field of art and be something more than a mechanical performance, it must do the same thing.

Wagner's operas appeal directly to our imagination, consequently they are ever new and we enjoy them more every time we see them. His various themes are unfolded to us, not all at once, but as we grow into them, and each time we discover new beauties. It is largely the same with a fine picture. If every detail is equally important, everything clear-cut and in full light, we soon tire of it, because we soon see all there is to see and after that it is always the same.

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* Copyright, 1902, by F. Dundas Todd.

On the other hand, if we can introduce the element of mystery into our picture, it gives our imagination a chance and what we do see clearly is made more beautiful by the sacrifice of something else. It is a psychological fact that we are much more fascinated by a mystery of any kind than by a plain statement of facts; and this is just as true of a picture as it is of a romance.

These qualities can be had in light, as well as dark, pictures. Do not think that a picture has to be in a fog, or as black as ink, to be artistic. It is only those who think they know a great deal and really know very little that make this mistake.

I noticed a tendency toward dark, misty things at the National Convention in Detroit last summer. There seemed to be a notion among certain men that the blacker they could make a picture the more artistic it was. I remember one man's work in particular — a lot of portraits, and nearly all of them looked like the picture of a dark man, in the dark corner of a dark cellar, at night. This is one of the greatest mistakes in the world. You must remember that it is the effect of light that makes things beautiful.

You can have nothing pictorially beautiful without a light effect. Not as the term is used in the country "gallery," sometimes called a Rembrandt effect, but a light effect which pervades the whole picture. One must feel that subtle glow through the entire arrangement, even though the picture be very low in tone. A pitch-black background is never transparent. You never look into it as you should, but the murky stuff seems to be as opaque as a tar wall, clinging to the things in the foreground, and does not go back at all.

The first duty of a background is to go back. It should be luminous and atmospheric, even though it may be dark.

When lighting a bust or half-length portrait, we will take for granted that your spacing and lines have been well looked after, but the chances are that there are several lines that you would be only too glad to get rid of, things that are unavoidable, and your light is the last trump that you have been saving to take care of this very trick. With it you can control the entire arrangement, subdue your disagreeable or unimportant lines and bring out others; you can lead the eye wherever you choose; the beautiful line can be accented at its most important point and sacrificed or utterly lost where it ceases to be useful. On the other hand, so powerful an influence over an arrangement can do a great deal of mischief. The most beautiful arrangement in the world can be utterly spoiled by bad lighting. I can not overestimate the importance of lighting. Aside from its technical relation to a composition, which is great, it plays the all-important part in the sentiment of a picture. You are dependent upon your

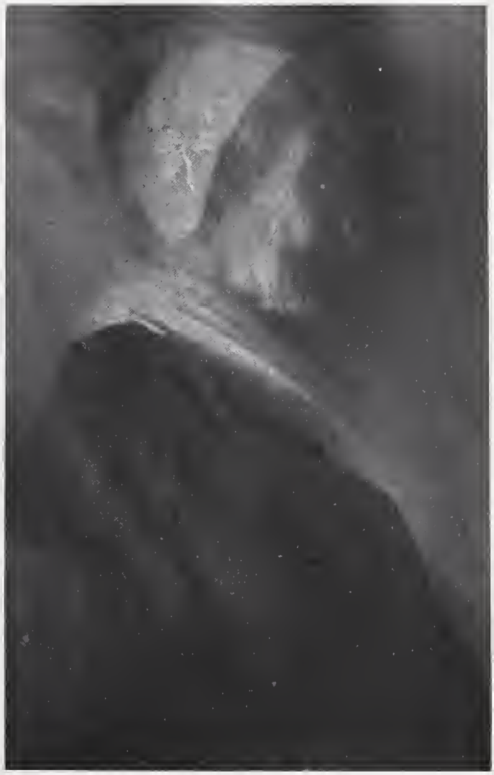


Fig. 16.

lighting for all the quality and feeling put into your work.

Properly handled, it will do much to elevate your work above the mere copying of nature, and into the realm of art, which you must well understand is something more.

I publish with this paper three photographs by Rose Clark and Elizabeth Flint Wade, of Buffalo. In this work there is no attempt to be freaky. It is straightforward, and the result is simple, dignified and thoroughly good.

It seems to me that these pictures are a happy compromise between a freak photographer who mutilates and fusses with his prints to get plastic qualities until they are neither a sketch nor a photograph, and the ordinary commercial stuff, where it is simply a question of getting it all in. In these pictures the interest has been centered upon the face by the simple device of throwing the rest of the picture in shadow, and the values are so cleverly treated that we feel the mellow glow of light through the dark backgrounds.

The study of an old lady is a beautiful thing; full of mystery, atmosphere and poetic feeling. How much more interesting it is than the same subject would have been, photographed under the glare of a strong light that brought every detail into prominence. It will be noticed that the face is entirely lost in the background, and yet the background is a long ways from black. At the same time the outline of the cap on the light side is softened and accented in a most charming way, while the black local note of the dress makes the background luminous and atmospheric.

In the profile study of a young girl the dress and hair are of a decided note darker than the background, and thus serve the same purpose as in the old lady's portrait. Remember that as soon as you make a thing dead black it becomes local color and is not transparent.

I wish to call attention to the spacing of this portrait, as well as that of Mrs. B's portrait. I find all this room in front of the faces very agreeable, as it makes a clever variation with the other spaces.

The use of pure black in a picture is something that requires good judgment, for black when properly handled is very effective. Your palette is purely black and white, that is, you have no color, so you are dependent upon the two extremes, black or white, or both, for your accents. It is quite plain, I think, that if you use both of these extremes all over your picture, they will cease to be effective. Both must be carefully reserved for the effective touch. In the light picture, the accent is made by a good spot of black, and in a dark picture by a good spot of light. But in either case you must be careful not to have conflicting spots.

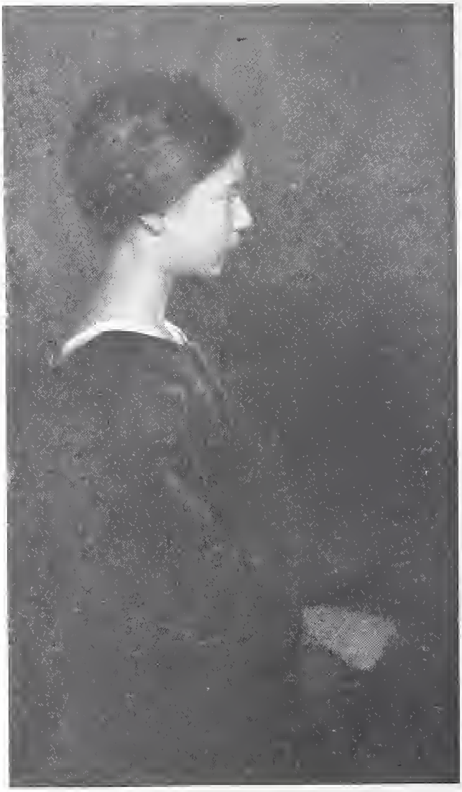


FIG. 17.

In a light picture you will discover that this sort of accent will be much more effective if there are no other spots equally dark in the arrangement, and if your picture is dark, subduing the other lights on the less-important things in the arrangement, will make your light spot or accent the more effective. In these portraits by Miss Clark and Mrs. Wade, this sort of accenting has been resorted to.

In a low-toned picture the accent can be made even more effective by introducing a spot of pure black in contrast with the light. Where black is used in this way, it serves a double purpose. It makes the accent more effective and at the same time gives an atmospheric luminosity to the background.

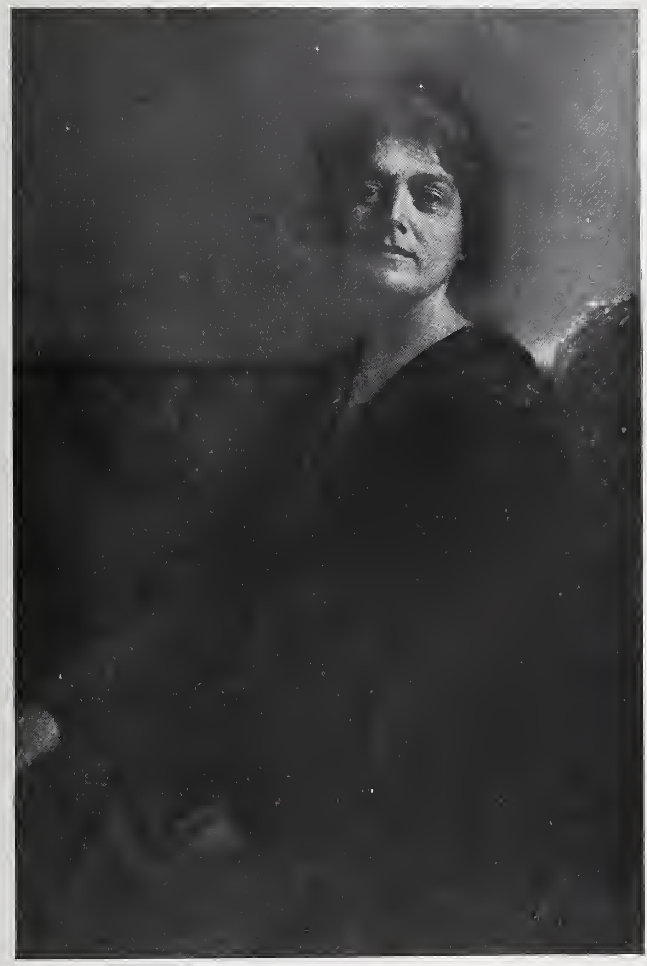


Fig. 18.—Portrait of Mrs. B.

THE BUFFALO CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA, AUGUST 5 TO 8.

Never in the history of the P. A. of A. have the prospects for a successful convention been more promising.

The pledges for the exhibit of pictures indicate there will be a large display of photographs from the best workmen. The Art Gallery will be full of good things from end to end and will be a schooling of value.

The great amount of floor space engaged by the manufacturers and dealers bids assurance that they will make this feature of the convention interesting. They have the second day all to themselves, and will make a fine display of their wares and entertain you as well.

The hall fills every requirement. It is large, being 150 by 200 feet, well lighted and well ventilated. The room where the meetings will be held is on the second floor and ventilated on two sides, and will be found comfortable.

The entertainment of the members is provided for in a pleasant manner, one feature of which is a trip to Niagara Falls.

This trip is free to the members and is so arranged that a systematic viewing of the falls can be had in the shortest time, or the visit can be as long as you wish to make it.

The program will be found interesting and instructive. It has been the aim of the committee to make this convention thoroughly practical. The lecturers are of the best, and their subjects on practical lines, and will be fully illustrated.

Every photographer owes it to his health to take a vacation once a year.

He owes it to his brother workmen to mix and be sociable.

He owes it to his customers to attend the conventions and learn all the new things.

He owes it to his business to be progressive.

All these demands can be met by attending the conventions. And in addition, your work is wanted for your own comparison and for the good of the cause.

Come, profit and enjoy yourselves.

At the union station take the Elmwood cars for City Convention Hall.

RAILROAD RATES.

A rate of one-and-a-third fare, on the certificate plan, has been secured for the convention of the Photographers' Association of America, to be held in City Convention Hall, Buffalo, August 5 tc 8.

Please observe the following directions:

Tickets at full fare for the going journey may be secured within three days (exclusive of Sunday) prior to and during the first three days of the convention.

You can obtain your ticket not earlier than August 1 nor later than August 6. Tickets good to return to August 12.

Be sure that, when purchasing your ticket, going, you request a certificate. Do not make mistake of asking for a receipt.

Call at the station in due time for the agent to make out the certificate.

Certificates are not kept at all stations. If you inquire at your station, you will find if your agent can supply them, and if not he will inform you of the nearest station where certificates can be had. You will purchase ticket to this place, and there get your certificate and ticket to Buffalo.

On your arrival at the convention, immediately deposit your certificate with the treasurer, F. R. Barrows, who will have it signed by the passenger agent.

It has been arranged that the agent of the Traffic Association will be in attendance on August 6 and 7 to validate all certificates. Only on these two days will the certificates be signed, so all tickets must be in the treasurer's hands on these days.

Your certificates will then be returned to you, and upon presenting them at the station, you will be furnished a ticket at one-third fare home.

HOTEL RATES.

Genesee Hotel (headquarters Executive Committee): American plan, $2.50 and up, per day; European plan, $1 and up, per day; baths, 50 cents per day extra.

Iroquois Hotel, European plan only. Rooms, $1.50 and up, per day; rooms with bath $3 and up per day.

Hotel Broezel: American plan, single $3 and double $2.50, with bath $3 and $3.50.

Castle Inn (Old Fillmore Mansion): American plan, two in a room, $1.75 to $2.50; one in a room, $2 to $3.

Tifft House: American plan, one or

two in a room, $2.50 and $3 per day; with bath $3.50 and $4.

There are many other hotels with various prices.

C. R. Reeves, *Secretary.*
819 Meridian street, Anderson, Ind.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

Office of the President.
143 Euclid Ave., Cleveland, Ohio.

Buffalo should be the "Mecca" toward which all photographers should journey in August.

The following program has been arranged for the instruction and edification of the Photographers' Association of America on August 5-8, at the City Convention Hall:

PROGRAM.

Tuesday, August 5, 10 a.m.

Opening of convention.
Address of welcome.
Reading of communications.
Reports of committees.
Address by Prof. A. H. Griffith, of Detroit.
Annual address by the president of the P. A. of A., George M. Edmondson.

3 p.m.

Reading of communications.

A talk by C. H. Smith, of Rochester. Subject: "Why?" (Twenty minutes.)

A practical studio talk: "A photographer-demonstrator's views on the 'little things' in the business that mean success."

Lecture by Lucius W. Hitchcock, of Buffalo. Subject: "Practical composition of one, two and three figures." (Forty-five minutes.)

Mr. Hitchcock will, in his lecture, show how one sort of line and arrangement is better than another, and then give the right principle along which to work to do original things rather than copying the good things of others.

Wednesday, August 6, a.m.

Manufacturers' and dealers' day.

There will be no meeting on this day. The members will devote the time to inspecting the exhibits and purchasing goods.

Thursday, August 7, 9:30 a.m.

Reading communications.
Report of treasurer.
Report of secretary.

A talk by C. H. Hayes, of Detroit. Subject: "Good business methods for photographers." (Twenty minutes.)

A general business talk that will be of value to the fraternity. Do not miss it.

Neg. by Henry Pearson, Taylorville, Ill.

SECOND PRIZE.

A talk by William J. Edmondson. Subject: "How to make good groups.) (Thirty minutes.)

This talk will be illustrated by large tracings from photographs introduced in such a way as to demonstrate forcibly the practical application of each point considered.

Selection of next place of meeting.
Nomination of officers.
Election of officers.

3 p.m.

Address by Elbert Hubbard, of East Aurora, editor of the *Philistine* and *Little Journeys.*

Lecture by Prof. O. W. Beck, of New York. Subject: "Art possibilities in commercial portrait photography to-day."

Professor Beck will show in a practical way how the photographic portrait can find a new life in art. Professor Beck's wide experience before photographic conventions has taught him the actual needs of the fraternity to-day, and he will not only give thorough instruction in art, but he will show how to apply it commercially.

Friday, August 8, 10 a.m.

Unfinished business.

Talk by Morris Burk Parkinson, of Boston. Subject: "The idiosyncrasies of the customer and a word about faking."

P.M.

Members of the association will be given an excursion to Niagara Falls.

The Executive Board.

LANTERN SLIDES FOR ILLUSTRATING SONGS.

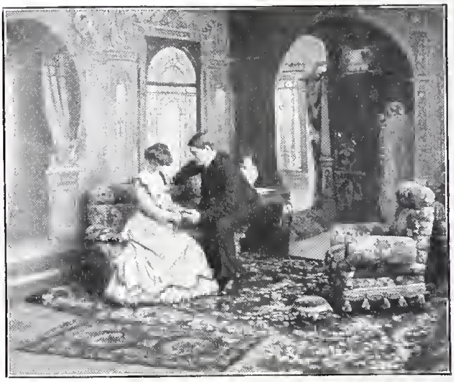
As the making of lantern slides for song illustration has become so extended, a description of this branch of photography is timely and no doubt will prove interesting to many.

Very few, I believe, are aware of the fact that over one hundred cases of plates are used weekly on slides for this purpose and that the aggregate of these slides reaches the enormous figure of 1,872,000 yearly, the cash receipts for which is $654,900. This figure does not take into account secondhand slides which are bought and sold many times over.

About five years ago slides for popular songs were introduced, the negatives being made from life posings in illustration of the ideas contained in the song. There had been, up to that time, nothing but drawings, and most of them very poor. As the new idea pleased the public, the demand for slides soon became very great, and many unscrupulous makers sprang up who copied sets, not even stopping to take the color out, and the market was flooded with a lot of trash so poor as to be entirely lacking in any good point. The usual number of quacks stepped forward and offered their productions at cut rates. In this manner song slides have struggled on until the present time, when they have developed into a business by themselves.

This description of how illustrations are made will be found useful in other lines of photography, for in my experience of illustrating poems and lectures, I have found that I needed pictures impossible to obtain except by "faking," and I have therefore worked out a method which is described in the latter part of this article.

In illustrating a song, the first essential is the backgrounds to be used for the interiors. The natural interior, a room, will not do, except in a very few individual cases, as the light for the groupings can not be satisfactorily obtained. The ordinary studio background will not do, as it is too much diffused. The detail must be painted in strongly, and the lights and shades must be in marked contrast. The accompanying cut will show what is meant. The scene must duplicate a room as nearly as possible, and this also gives the artist a chance to color the slide well. The selection of figures is very important. They must be in harmony with the characters of the song and at the same time as handsome as possible, so as to catch the sympathy of the audience.



The furniture, rugs, etc., must be harmoniously arranged and yet so placed as to accommodate all the varying positions of the illustration to be made. The posing, while it depicts the expression of the words, must also be artistic. There must be plenty of action and the light must be good, particularly so on the faces, so as to bring out the features and expression as much as possible. The negative must be critically sharp, especially if it be made "slide size" for contact printing, as the enlargement upon projection will diffuse the lines very much. If any retouching be done, it must not be stippled, but an exceedingly smooth removal of blemishes.

On the exterior pictures for the song, I can add but little, only mentioning that good situations must be selected, with plenty of perspective and well balanced in light and shade. There should be no very deep shadows or strong high lights, as it will be difficult to color the slide, and in the shadow the color will not show upon the screen at all.

The scene should also balance in construction. A large amount of one style of foliage, a broad expanse of water, too much sky, a great deal of bare ground or too much foliage are all objectionable, but a little of each in the proper place brings harmony.

This is not always easy to obtain and especially when you consider that you are bound to select your situation in consideration of the description given in the song. Select these views as carefully as we may, we often find that they can be improved in foreground, or right or left, by clouds or other addition.

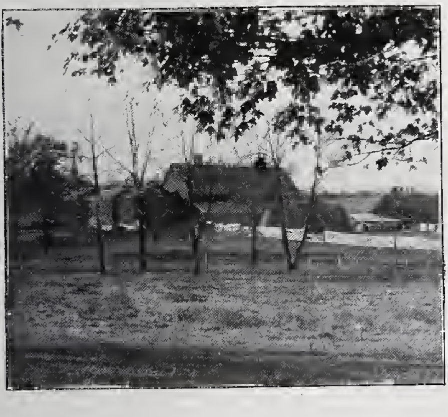


Fig. 1.

In illustrative work we often obtain just what is wanted in all respects but one.

For instance, I had these lines to depict:

> The old red barn, the windmill nigh,
> The pasture with its maple tree,
> Beneath whose shade the cattle lie,
> O "Home, Sweet Home" is this to me.

In a picture for these lines we have something difficult to obtain. It must show cattle lying beneath the maple tree, and it must also contain the barn and the windmill. That is not all; it must be a picture — something that will recall the happy recollections of "Home, Sweet Home," down on the farm.

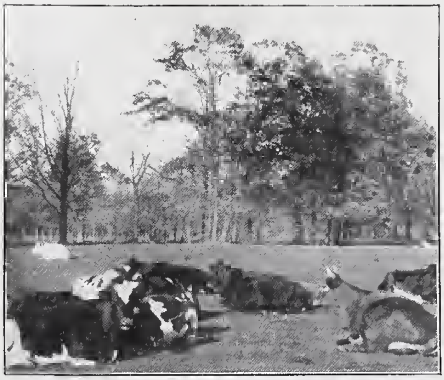


Fig. 2.

In securing the view reproduced here, I was fortunate in finding a good barn and pasture with maple trees, but the cows would have none of it. The more I coaxed the more indifferent they became, and the more I chased the more they fought away from that shady spot.

I gave this up temporarily and made two negatives of the scene without cows, and then went in search of more congenial cattle.

I had driven ten miles north and six miles west when I suddenly came upon a herd lying quietly near the pasture gate, chewing their cud. It is needless to say that I had the "cow fever" after so long a search; but I secured some good exposures and turned my horses' heads toward home with that inward satisfaction which success and a pipe of good tobacco alone can produce.

Do not think because I was excited I had forgotten to take into account the size the cows should be and the proper elevation of the camera to give the right perspective to the picture. These are very essential points, and it is essential too, that both plates be made with the same lens. In this case the pictures were made on 4 by 5 plates, from which contact lantern slides were to be produced, and I will describe the process for that size.

To combine the two negatives, the procedure is as follows:

Take a glass form, 3¼ by 4, made with two cover glasses bound together, between which is a lantern slide mat. Cut two strips of white gum paper four inches long and one-quarter inch wide. Place the glass form on the gelatin side of Negative No. 1, which in this case is the one of the barn and pasture, and adjust it so that the part you wish to show in your slide will appear through the mat. Hold it firmly and stick a piece of white gum paper along the top and exactly even at both ends of the glass form. Now put one on the left-hand end in the same manner. These form an ┌ and are called the loading strips. Hold the glass form still firmly and turn the negative over. Take a brush and with any opaque color draw an irregular line on the glass side of the negative from end to end along where the union of the two negatives can best be effected. This is called the guide line. Turn the negative back again and draw a duplicate line on the glass form.

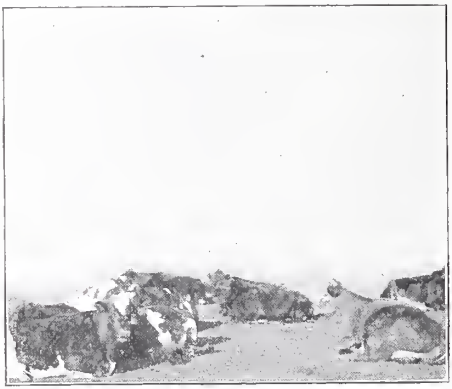


Fig. 3.

Take glass form and Negative No. 2; proceed in exactly the same manner, first adjusting the glass form so that the cows come in under the guide line and inside the mat; if the guide line has been drawn in the right place, there will be room for them. Put on the loading strips and turn the negative over and make a guide line on the glass side of it.

It must be remembered that great accuracy is necessary if the deception is to be perfect, and it is best to verify the work before you go further.

Put your glass form first on Negative No. 1 and then on No. 2, and see if the guide line on glass form and those on the back of each negative are exactly opposite each other and just alike when the glass form is against loading strips.

Take a good ruby dye (scarlet diamond dye I have found to work well), dissolve it in a little hot water so it will be very intense. Allow the solution to settle and decant the clear portion.

Start with Negative No. 1 and stain the film a deep red, gradually working from the bottom up toward the guide line on the gelatin side. Use a No. 4 red sable brush, and as you near the guide line constantly dip your brush in a tumbler of water previously provided.

The color should begin to fade about ⅛ of an inch before reaching the guide line, and finish about ⅛ inch beyond the guide line, thus producing a vignetted edge.

Set aside to dry and proceed exactly the same with No. 2, only turn it upside down and stain out the top of the negative.

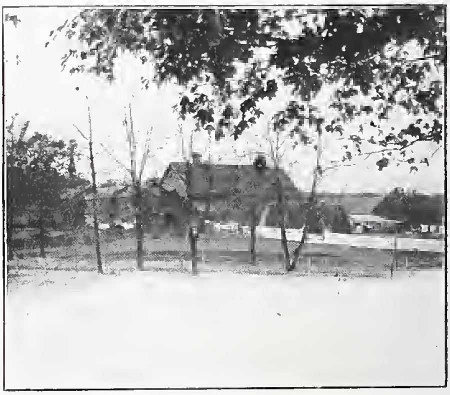


Fig. 4.

The color should be applied evenly and be very dense, but the edge should be well vignetted with water.

When both negatives are dry, test them with a proof on paper exactly 3¼ by 4 in size, and be very particular to load it to the loading strips, first printing it dark enough on Negative No. 1, and then removing it to Negative No. 2. When dark enough, if it is found that a white line or spot shows at the union, the color has been carried too far on one negative or the other, or perhaps both. If a dark spot, the reverse — not far enough.

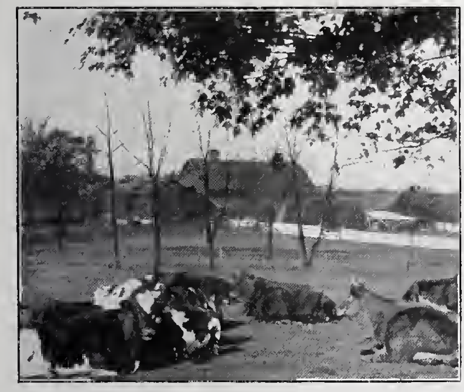


Fig. 5.

To determine, take the glass form, clean it and place it on Negative No. 1; draw a new guide line along through the center of the vignetted edge, then place it on Negative No. 2 and see where the trouble lies. It should run exactly through the center of vignetted edge No. 2. If it does not, rectify it by applying more red where wanted or by taking out where too much has been laid on. It can be removed with constant application of water with the No. 4 brush.

If the mistake is too great, soak the whole negative in running water and begin over again.

When it is found that the color has been properly applied, flow both negatives with ten per cent collodion, as the dye will sometimes cause stickiness, and this will overcome it.

Flow the collodion on negative from clear portion toward color, as the color will run slightly and should not be carried across the negative.

Cut No. 1 shows Negative No. 1. Cut No. 2 shows Negative No. 2. Cut No. 3 shows Negative No. 2 after the red has been applied. Cut No. 4 shows Negative No. 1 after the color has been used. Cut No. 5 is the combination print made from both negatives, and shows that if cows will be stubborn, wit and genius can outclass them, and although it has been a little tedious, we have reached the desideratum.

The old red barn, the windmill nigh,
  The pasture with its maple tree,
Beneath whose shade the cattle lie,
  O "Home, Sweet Home" is this to me.

Composite pictures can be made from any number of negatives by this method. I have very successfully made a slide from four negatives, the greatest difficulties I experienced being the registering of all negatives and the getting of all the exposures correct, for if one exposure out of four was defective, the slide was spoiled. However, a little experience, combined with accuracy, will enable you to obtain anything you may desire. Many a picture with a bare foreground can be beautified with an old log; a sea will look better with a ship, and many a sky can be improved with a flock of birds.

Be careful, however, about the perspective and lighting or gross incongruities will result.

The same method as described in this article for lantern slides can be applied to any printing-out process. For prints on paper, the aniline color must be darker and more opaque or it will print through. C. H. Staunton.

A HANDY CHANGING DEVICE

I know you are always open to new "kinks" and have the moral courage to "fire" them in the basket if they are not of general interest, but it has been brought to my knowledge that one of the most troublesome items one meets with while traveling, photographically speaking, is that of a handy, sure, compact and safe place or method of changing plates, night or day. "Necessity is the mother of invention," and for that reason I planned what to my mind covered the whole point, and which might be of interest to some others.

Take a piece of dark cloth, nearly as lightproof as possible, about four feet square. Cut two holes about six inches in diameter about fourteen inches apart, each being seven inches from the center of the cloth.

In these holes sew sleeves for the full length of the arm, with rubber bands to hold them closely around the wrists.

Prop up the center of the bed clothes with a stick fifteen or more inches long, being sure that you raise enough covers to be perfectly lightproof. Stick the arms of your cloth between the covers, pin the corners of the upper half to the coverlid and tuck the lower half under the mattress, and you have a perfectly dark changing box; but be sure and learn the difference between the film and glass side of the plate by feeling before you start, which can be easily accomplished. Yours as ever,

E. P. Sperry.

A NEW FLASH LAMP.

G. Gennert is placing on the market and taking orders for a new flash lamp called the "Lieber flash lamp." It has a collapsible metal stand, beautifully japanned and nickel plated. It has a 20-inch pan to hold the powder, so that a very broad flame can be obtained, and it enables the operator to make a flash at a height of six feet from the ground.

It is an instrument that can be used without any danger whatever to the operator, as no flame is brought near the powder; the latter is set off by exploding a common cap by means of a plunger. The plunger is operated by a bulb and rubber tube, and can be operated at as large a distance as may be desired by increasing the length of the tube.

There is no possible way of setting off the cap or the powder except by pressing the bulb, so that there is no danger whatever in working the machine.

The machine can be folded up neatly like a music stand. It lists for $6.

ISOCHROMATIC PHOTOGRAPHY.*

CHAPTER VI.

LIGHT FILTERS.

We are now brought to the question of what screen to use and when to use it, and the problem is simplicity itself. It is necessary that a filter be used on every exposure made if correct action be desired. A certain amount of discrimination may be exercised in *ordinary work,* but it must be remembered that every departure from the perfectly adjusted filter means more or less of error in reproduction of color values. As I have before shown, it is not every or any yellow screen which will serve equally well for first-class results, but one must be adjusted carefully to the plate used.

To begin with, choose the plate which when unscreened shows the best orthochromatic effect, for it is impossible to make any isochromatic work without a thorough knowledge of the plate used, or, in other words, choose that plate which shows greater sensitiveness to the various spectrum rays than another and make your screen (or filter) to suit that plate. Of course this adjustment must not be guessed at, and to the worker who is not the possessor of the necessary apparatus, no very close approximate can be secured, but by a careful study of the spectrum or spectro-sensitometer prints which have illustrated this series, a fairly good idea may be formed. It is to be regretted that the method of reproduction necessary in order to show these illustrations does not give full justice to the negatives. A great amount of the more delicate detail, particularly in the case of the spectrum prints, is in this way lost. For example, in all of the unscreened spectrum negatives the H and K lines at the extreme limit of the visible violet are very apparent, as are also many lines beyond, but they are impossible to show here.

Now, then, having chosen your plate you will very readily see that none of the so-called "ray filters" are exactly suitable, and as the manufacture is a very simple matter there is no reason why a palpably imperfect piece of apparatus be used when one can make for himself something that is better.

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*Copyright, 1902, by F. Dundas Todd.

In the first place, it must be taken into consideration that different effects (in ordinary work) require different treatment, just as much as different strengths of light require different lengths of exposure, for the colors in nature are not pure colors, but are mixed with a considerable quantity of white light. It certainly stands to reason that with a plate sensitive to certain colors the photographing of a bright midday landscape, with its blue sky and fleecy clouds, form an altogether different kind of problem to that of an evening sky, with its gold and crimson and its reflected yellow glory over all the view. In the former there is the minimum amount of yellow with the maximum amount of the blue, violet and ultra-violet, while in the latter there is the maximum amount of yellow and the minimum of blue and violet, while the ultra violet is considerably suppressed by the presence of the yellow reflected "haze." For one (unless we possess an adjusted filter) we must use a screen which will act strongly upon the blues and violets and weakly in the yellows, while in the other it should be exactly the reverse. It is right here where careful adjustment is most necessary or the effect is overdone and the picture just as badly spoiled by the one result as by the other. Every one has seen the reproductions which are scattered broadcast throughout the photographic and other magazines, and the catalogues and pamphlets of the dealer, illustrating the advantageous (?) results which may be obtained by using So-and-so's ray filter, wherein the clouds are shown as so many balls of snow or chalk suspended in a pitchy sky in a manner that makes a person think the result would surely be fatal were they to fall on them. This is one of the results of overcorrection of filter to plate. The blue has been reduced too much, therefore the sky-blue could not impress itself sufficiently fast, the result being as has just been described.

Of course it must be understood that the use of a screen or ray filter upon any plate means a lengthening of the time of exposure. There is, however, an exception; for instance, a short time ago an amateur friend was explaining to the writer the particular advantages of the screen used by him, and which required no lengthening of the time of exposure. Upon inquiry it was learned that the screen in use was composed of a dyed film of Hofmann violet, which gave "most artistic effects" in the resulting negative. The user had never made any serious test between a view taken with and without that particular screen, but was very positive as to the improvement.

Now the fact of the matter is that there was actually no difference in the negative made through this screen than that made with an ordinary plate, as the action of the violet was to cut out by absorption the very colors to which the plate (Cramer Iso) had been specially sensitized, namely, yellow and yellow-green, and by the transmission of the blue-violet and ultra-violet had simply, as before stated, brought the plate back to the condition of an undyed film. The user had, of course, made tests; of course he had made a negative through his filter (on an iso plate), and he had also made one of the same subject without his screen (also using the iso plate), and when the writer ventured to suggest that he try one on an "ordinary" plate he was silenced by being told that iso plates were those which he always used, and it would be foolish to test on anything else. About one month later he woke up.

Here is the problem: Given a plate sensitive unequally to the various rays of the spectrum, so make your filter that it will hold back the colors which impress themselves too quickly, not cutting them off altogether, but dimming them down, and allow those that are photographically weak to pass through unhindered.

A glance through the many spectra and sensitometer prints already shown will readily solve that problem, for there are given dyes that cut off any particular ray desired, and by their judicious admixture in varying quantity any result may be secured.

For convenience (and the benefit of the beginner) I tabulate briefly a few of the principal dyes and their effect as filters upon the different hues of the spectrum.

Dye.	Absorption.
Picric acid	Part of the blue-violet and ultra-violet.
Napthol yellow	Part of the blue-violet and ultra-violet.
Aurantia	Part of the blue-violet and ultra-violet.
Auramin	Part of the blue-violet and ultra-violet.
Metanil yellow	Part of the blue-violet and ultra-violet.
Acridin yellow	Blue, violet and ultra-violet.
Eosin (yellow)	Green, blue, violet and ultra-violet.
Eosin (blue)	Green and blue.
Tropæolin, O. O. O.	Green, blue and violet.
Orange G.	Blue-green, blue and violet.
Coccinin	Yellow-green, blue-green, blue, violet and ultra-violet.
Ponceau	Yellow-green, blue-green, blue, violet and ultra-violet.
Biebrich scarlet	Yellow-green, blue-green, blue, violet and ultra-violet.
Saffronin	Greens and blue.
Brasillin	Yellow-green, blue-green and blue.
Ruthenium red	Yellow-green, blue-green and blue.
Bordeaux red	Yellow-green, blue-green and blue.
Magenta	Yellow-green, blue-green and blue.
Erythrosin	Yellow-green, blue-green and blue.
Sudan III	Yellow-green, blue-green and blue.
Crocin	Yellow-green, blue-green, blue and violet.
Ammonium picrate	Blue, violet and ultra-violet.
Emerald green	Orange and violet.
Malachite green	Orange and violet.
Solid green	Orange and violet.
Anilin green	Orange and violet.
Iodine green	Orange and violet.
Napthol green	Red, orange, blue and violet.
Light green S. F.	Orange and violet.
Fast olive green	Orange and violet.
Fast green	Orange, yellow and violet.
Nile blue	Orange, yellow and green.
Methylen blue	Orange, yellow and green.
Methyl violet	Orange, yellow and green.
Formyl violet	Orange, yellow and green.
Crystal violet	Orange, yellow and green.
Hofmann's violet	Orange, yellow and green.

A very convenient method of manufacturing a variety of screens suitable for use with the various plates upon the market is to coat thin sheets of Russian mica (which must be free from blemish) with a stained collodion. I have found this method very useful in work where a filter with a special action was desired for some particular plate or purpose. This stained mica may be used before, behind or between the combinations of the lens, and one or more sheets may be introduced, at the will of the operator.

The mica should be selected of as thin a quality as is consistent with safe handling, and special care must be taken that no finger-marks appear on either surface. It is then cut up into pieces somewhat larger than the screen desired and flowed over with a collodion made as follows:

Gun cotton (Anthony's snowy)	10 grains
Alcohol	1 ounce
Ether	1 ounce
Dye stuff (about)	2 grains

The dye should first be dissolved in the alcohol and the cotton then added. After standing for a few minutes the ether is added and the mixture shaken until the cotton is entirely dissolved, and then carefully filtered. The piece of mica is then edged with a solution of rubber in benzol (which dries almost immediately) placed upon a small piece of glass to give stability during the operation, flowed over with the stained collodion (only practice will give skill in this operation, but it presents no difficulties worth speaking of), gradually brought to a vertical position with a constant rocking semi-circular movement to avoid the collodion forming "waves," and when set reared on end to dry. Several such screens may be made by selecting any dye from the foregoing list which will fulfill the necessary requirement of the conditions, or two or more differently stained sheets may be combined, as before stated. There is a slight loss of illumination in the absorption of the mica, but it is so small that it can be overlooked. Any number can be carried into the field or from place to place between the leaves of a note-book. For screens of a lighter color dilute the collodion with equal proportions of ether and alcohol in varying amounts.

Negative by Geo. T. Power, Chicago.

A SECRET.

It is impossible to give any more detailed instruction for manufacture without needless repetition of what has already been said, for if the earlier chapters have been seriously and carefully read they contain in themselves all the necessary information. First know what you are striving for — what color you want to cut out, or dim down, and then turn to the table of dyestuffs and select the color.

In selecting a number of dyes for combination it is not sufficient that they give only the correct absorption; they must also pass without obstruction the rays that are desired. For example, suppose that it is required to cut off the yellow and the violet. A solution of chrysoidin and china-blue will do it, but a solution of methyl-blue and picric acid will do it better, for the first combination not only cuts off the undesirable hues but also slightly dims down the luminosity of the greens, and it is for the determination of this latter point that the small prism (H, Fig. 2) is added. In use two equally luminous flames are used, one in front of the slit plate and the other at one side and carefully adjusted for distance until upon looking into the telescope the two spectra are seen, the one above the other, exactly coincident in luminosity, then the two solutions to be compared are placed one in front of each light, and the comparative absorption is seen at a glance.

Although no really good or complete work in isochromatics can be performed without the aid of the spectroscope, yet visual observation of the spectrum is not enough, for the ultra-violet rays which are the most energetic in actinic effect are altogether invisible. For example: A solution or screen of chrysoidin yellow appears to cut off the spectrum in the blue, and to totally absorb everything beyond, but a photograph taken through the same screen will show a strong action in the ultra-violet, hence the necessity for a photographic test before making a deduction.

It is only a question of a very short time when the American plate manufacturer will awake to the importance of following in the footsteps of his European brother, and make a filter and safe light suited to his own particular plate. The great army of photographers are becoming better educated in this line with the passing of each year, until now the number of serious workers form one vast concourse, which is just beginning to shake off the lethargy induced by "old-fashioned" text-books that, in many cases, still obtain as "standards." Photographers are even now looking askance at many of the so-called isochromatic effects — a sure evidence of a higher education. But platemakers, like any other body of men, dislike a radical change, for it is so much easier to travel along in the rut worn smooth by usage than to make the effort to climb the side and "blaze" a new path, forgetful of the fact that a new path, if scientifically correct, will redound eventually both to the honor and profit of the manufacturer.

In these chapters much detail work has, of necessity, been omitted, but all salient points have been touched upon more or less fully, and the writer will be amply repaid if they are conducive in even a feeble way to the better understanding of the subject, and hasten the time by even a fraction when the photographic world will be educated up to and demand an isochromatic plate and filter that is truly isochromatic, and will not be satisfied with any makeshift, however cheap or handy.

R. James Wallace.

Since writing the above, the writer is pleased to note that an absolute adjusted filter has been placed upon the market for both the Cramer and Seed Isochromatic plates. While Carbutt's filter is in many ways good for his polychromatic plate, yet in the hands of the author it has shown decided lack of adjustment, being over-corrected for the reds.

With reference to Mr. Wallace's articles upon Isochromatic Photography, we beg leave to draw the attention of our readers to the advertisements appearing in this issue regarding the ray filters advertised by M. A. Seed Dry Plate Company and Burke & James. These are especially adapted to certain brands of plates, and we have no hesitation in assuring our readers that they will find them to be perfectly adjusted to these plates and will do everything that is claimed for them.

THE NEWER DEVELOPING AGENTS VERSUS PYRO.

There are few professions, we believe, where more imitation is displayed than in our beautiful art of photography, and few subjects pertaining to that art are so thoroughly misunderstood by practical men as the development of a negative. Between the assertions of these two extremes the one-year amateur who delights indiscriminately for a few days or hours in the last newly born baby developer, and the old professional hand who swears by his "old friend pyro," and disdainfully sneers at the newer agents, there seems to be room for some good sound truth and some efficient developer. But neither the photographer nor the would-be-such seems able to peep any further than his own little horizon, and each of them institutes himself within his own narrow limits a judge "of all things knowable" in photography.

Negative by Corydon G. Snyder, Chicago.

The amateur generally knows but little, if anything. He is very well read, however, and dabbles conscientiously with every new compound put on the market. Hence his claim to know. Does his plate happen to have the right exposure he gets a good negative with a normal developer. Ergo, *that* developer is *the* developer until one morning he fogs with it a dozen of badly exposed plates. Darn the stuff! And then he goes in pursuit of some other newly advertised, ortho- or para- compound of the -ol series. Does some well advanced friend or professional show him a perfect negative, his first inquiry is for the formula for the developer that produced this wonderful work. Do not try to persuade him that the " hand behind the gun " might have something to do with the result attained. Wasted time. He must have that developer. That is the magic secret of his friend's success. It will require two or three years, on an average, and a pretty snug sum of money wasted on plates, slides, and other materials to bring him to his senses.

The professional has a better excuse for his ultra conservatism. His profession is his daily bread, and he can not jeopardize his results and his reputation fumbling among developers like a bee amid a bunch of honeysuckles. Yet it is just as much his interest to be wide-awake to progress and improvements. But these find a deaf ear in him. He has started twenty years ago with "good old friend pyro," and has been successful; that is all he knows. Yet, strange to say, the same man changes his business methods to suit the progress of time and the new demands arising from new conditions. But on the point of his developer he is immovable. It is a cult, a faith, with him. Do not try to persuade him that he might be mistaken, that his views are not in accordance with the results of scientific research. No, sir! He does not care about scientists. He has developed successfully for twenty years, and he knows what can be done or not. They might be right in theory, but in practice — there is nothing like the practice, sir, and he has had the practice; he has developed for twenty years, etc. Has he ever tried the newer developers? Yes, he has tried some. Developed a dozen plates with such and such — all rotten; would not print. That pyro stain was missing, and there is no good printing negative in the world without a pyro stain. If you timidly attempt to suggest that possibly he did not develop far enough, allowing for the more actinic color of the deposit, he smiles complacently in a vague attempt to understand if there is any stain involved in that actinic affair you are talking about. Should you go so far as to hint that possibly he did not know how to work properly his new developer, what a mingling of wounded feeling and of disgust in his face. You accuse him of ignorance in his profession! My dear fellow, he has developed for twenty years and always been successful, and he knows something about it. These new developers are rotten and good for the amateur (he means good for the dogs), and that settles it.

Do not think the picture is overdone. We have known many of that kind. That man is honest in his mind. His conclusion is wrong because of his premises. No matter how long he has studied the secrets of his pyro developer, no matter how ably he may handle it, he *must learn* to develop with the newer agents, which he is not willing or is reluctant to admit. Now both the old professional with the pet developer, and the amateur who has not yet outgrown his short pants, photographically speaking, are equally far from the truth. Modern developers have characteristics of their own that make them extremely valuable in themselves. They do not claim to be better than this, better than that, but to be as good as any and better than some under particular circumstances. Each in its own way permits the securing of equally good negatives, but in certain cases some are to be preferred on account of the facility and ease they afford us for obtaining these results. Why a man should, because of the sacred principle that everything can be obtained with pyro, lose three-quarters of an hour developing an underexposed plate, while the same results can be obtained in ten minutes with rodinal or metol, we fail to comprehend. Why pyro should be used to develop an extremely contrasty subject, where, if fast development be attempted, the high lights would assuredly be blocked up, and if time be given local development and possibly after intensification would have to be resorted to, when the same results might be got in a surer and speedier way by the use of metol, eikonogen or amidol, is equally incomprehensible. Why a man who has, say a gross of negatives to develop, should choose to spend a whole day in his darkroom when he could develop the whole lot in one or two hours in a glycin or ortol standing bath, with the superadded advantage of busying himself with something else in the meantime, is equally strange, to say the least. And yet how many photographers, both professional or amateurs, know of the advantages of stand development, or even know that there is such a thing in the photographic world.

How many plates are ruined in studios because of underexposures with attempted development in a normal pyro developer, which would have yielded delightful negatives if they had been treated with a weak solution of metol, rodinal or glycin. Then we hear a lot about elasticity. Now, in nine cases out of ten that much-praised quality is never made use of, either by the amateur or by the professional. In many studios the normal developer is very little tampered with, and a plate

Negative by Corydon G. Snyder, Chicago.

which refuses to come in it is invariably fired. Those that come, do so as they may, and the resulting negative is a compliment or not, as the case might be, to the operator's judgment of correct exposure. Yet, while pyro is very easily modified to suit all conditions, there are developers that will do it far better even in that respect. Glycin, adurol, pyrocatechin, yes, even the superannuated ferrous oxalate enjoy that advantage. They are all more tractable than pyro and more amenable to circumstances. If the reader will kindly refer to the table published in THE PHOTO-BEACON for June, page 176, second column, he will see how much more sensitive they are to the action of bromide, temperature and dilution than pyro; consequently, how effectually they may be handled, especially in case of extreme overexposure, when the latter would have become practically unmanageable. An overexposure of five hundred times is a pretty liberal overdose of a good thing, yet glycin will handle it so as to get a printable negative. How many pyro men will be able to do the same? Yes, I know it can be done, but how many are experts enough to do it?

But the great battle-ax of the pyro enthusiast is the stain. Some like it strong, some like it weak, some want a yellow deposit with a film stain, some want the film clear and the deposit black, broken with yellow. Stains there must be. The reason — printing quality of the negative, and for that, in the writer's mind, distinctly illusory advantage, they accept without discussion all the pyro mess, like we all know it, in the darkroom, on the clothes and on the finger-nails. Now let us consider a moment. Chapman Jones, voicing the nearly unanimous consent of all scientists in photographic research, describes among the requirements of a perfect negative that it should consist of a deposit of pure silver in clear gelatin, and further, that its printing and enlarging value should be estimated correctly by a visual test. Now the yellow stain does not allow of that. On the other hand, supposing a yellow stain would be a desirable quality, it would be so only under the conditions that the oxidation products, which cause it, be distributed so as to be proportionally denser, where the silver deposit is denser, and lighter where the deposit is fainter. In other words, the same relation should exist between the deposits in the shadows and in the high lights. This is, however, not the case, and the diminution or augmentation of the sulphite in the developer alters and changes that relation. Townsend, in a study on sulphite in connection with the pyro developer, noticed that a reduction in the quantity of this salt from five to two and one-half grains per fluid ounce of developer doubled the yellow stains in the dense parts and increased it four times in the lighter portions, whereas, the total suppression of sulphite produced an increase of the stain by three times in the denser parts and by five times in the lighter parts, as compared with that portion of the plate developed with five grains of sulphite to the ounce.

There is a much more important objection, however, namely: That in practical work the stain is never twice alike, depending, as it does, on the many circumstances that are practically uncontrollable. Time of development, modifications in the developer, time of washing before fixing, nature of the fixing bath, time the plate is left in same, time of washing after fixing, time of drying, temperature of room and solutions, etc., all will affect the results obtained. These differences will certainly not always be visible to the eye, but they will be noticeable in the printing and in the enlarging room. They will be glaring if scientific tests and measurements be resorted to. Now, working under circumstances that are not under control is working by the rule of thumb method. That some have achieved great success in this way of working we do not deny, but what about it? The photographer should have perfect control of his plate as the engine driver has of his engine, and he can do so only when he does not introduce an unknown quantity in the process of development. With any of the modern developers it will be easy for him to get a plate clear and free from stain, easily adjusted to any printing paper, and easily gauged in the enlarging and bromide room. But one thing must be remembered, however, namely, that when he deprives his plate of its yellow stain he augments so much the actinicity of the deposit that the resultant print will be absolutely flat and without character if that deposit be not greatly increased in density. Therefore, when using the modern developers, development must be pushed visually much further than with pyro, lest we get a flat and weak print. This has been the cause of the failure to get results experienced by many pyro workers. They do not develop far enough. They do not give different density to their negatives, and they blame the developer. Now if a plate be correctly developed by any of the newer agents it will give prints just as fine, just as harmonious, just as delicate, as pyro will, and have, besides, the advantage of cleanliness and of giving more regular results than the latter; and I should add, with less trouble. Some of the leading studios, both in this country and abroad, have become aware of that fact, and I know of many gold medalists who have renounced, for good, pyro and its inconvenience.

Negative by Corydon G. Snyder, Chicago.

Of all the scientific workers, on the other hand, not one in ten use pyro, be it in photomicrography, spectrum work, reproduction, tri-color work, etc. And yet in most of these pursuits the technical perfections of the negative which dare not be retouched, and the perfection of the resulting print are of much greater importance than in artistic or commercial work.

Even platemakers are taking a hand in the matter, and very few formulæ are now given for orthochromatic and process plates having pyro as a constituent.

A little time given to the study of modern developers will, we believe, repay well the progressive photographer, provided the test be made on scientific principles and not on the dabbling about system.

And now let us sum up by saying with Herbert Fry that this is the whole case against pyro: It has not been superseded by agents giving better results, or requiring less exposure, or which keep better in solution, but, in short, as Mr. Micawber would have said, by developers which are more easy to work. A. K. Boursault.

The Royal Photographic Society of Great Britain announces that its forty-seventh annual exhibition will be held from September 29 to November 4, 1902, in the new gallery, 121 Regent street, London, W. C., England. Full particulars can be had on application to the secretary, A. W. W. Bartlett, 66 Russell square, W. C., London.

I wish to add that if the prints possess any excellence whatever it is in largest measure due to the inspiration and instruction received from your valuable and sensible periodical. Indeed, I send the prints less with the hope of securing a prize than with the desire to improve the opportunity, however slight, to show appreciation for the pleasure The Photo-Beacon has given me. It at least has saved me from being a mere "button pusher."

Will H. Spence.

MY EXPERIMENTS.

NO. IX.

PLATINUM FORMULA.

Various sensitizing formulæ for platinotypes have been published. Some of them will work. Some of them are weary — Weary Willies, so to speak — and will not work.

One of them, as I remember it, prescribed a solution of one dram of chloroplatinite of potassium in a half ounce of water which, since that salt is only soluble in the proportion of 1-6, is about the same as trying to carry a quart of water in a pint cup.

It would seem either that many of the writers on this subject are working solely on hearsay evidence or their copy has been abused by the compositors and neglected by the copyholders.

The chloroplatinite solution that Pizzighelli and many other writers recommend is a 1-6 solution which, however, is not easy to make unless it be effected by heating the water. The water should invariably be freshly distilled, for the platinum salt is rather easily decomposed by organic matter when it is in solution.

Willis, he who invented and patented the first commercial platinotype paper, wisely selected ferric oxalate as the basis of his process, for, with the exception of ferric chlorid (which can not be used for this purpose) it is not only the quickest of the iron salts, i. e., the one that is most rapidly reduced from "ic" to "ous" by the action of light, but it is also the most active of them as a reducer for platinum. But it has always had one serious objection to me: the ferrous oxalate to which it is reduced in light is insoluble (in water), and prints made with it must always be fixed in hydrochloric acid.

The ideal platinotype paper, or for that matter, the ideal photographic paper of any type, should print visibly in the printing-frame and be capable of being fully finished in plain water.

Captain Pizzighelli has shown us how to prepare a paper that can be printed out in the frame, and it does reasonably good work, but, since he uses the oxalate, it requires acid fixing to avoid subsequent browning of the whites.

His process consisted, essentially, in the addition of potassium oxalate and glycerin, in small quantity, to a normal ferric oxalate-chloroplatinite sensitizing solution, mixing gum arabic with it and applying it to arrowroot-sized paper.

The presence of a small amount of potassium oxalate gave the paper the property of developing itself while it was printing (the glycerin was to keep it moist), the result being that a completely printed-out image was procurable in the printing-frame.

When, as I found during my own experiments, the percentage of the potassium oxalate was much greater than he gave it and the glycerin was omitted, the paper acted like the ordinary paper: It gave a fairly visible image on short exposure, which could be readily developed to full strength by immersing it in water heated to about 120° Fahr., but it did not act well when fully printed out — it was foggy.

Pizzighelli's formula is a good one and I will repeat it later on.

I have tried ammonio-citrate of iron with platinum; have tried the tartrates and other iron salts, and, led thereto by magazine articles, have tried uranium salts.

The citrate alone was of little avail, and the tartrate (iron and potassium tartrate) was nearly as insoluble as the oxalate after exposure, and besides, it was rather a dirty salt — the specimen that I had was, anyway.

Uranium, particularly the nitrate, was too slow, but the chlorid was not so bad, though even that was too slow for practical work. When the uranium salts were reduced by light, though, they were good precipitants of the platinum.

Citrate of iron and ammonium, when I succeeded in obtaining the green scales, was plenty sensitive enough for practical work, but it was only a very feeble reducer of platinum, even when combined with potassium citrate.

Now, since the citrate was swift enough and was entirely removable, after reduction, by plain water, and the uranium would do the hard work on the platinum, only that it was too slow, why not try mixing them and see if they would not assist each other. This is the way that it looked to me, so I tried it.

Neg. by Eugene Unger, San Francisco, Cal.
THIRD PRIZE.

It worked.

I was busy on this combination, making all sorts of variations of it, during two months. I tried nitrate of uranium and citrate of iron, half-and-half; I tried it uranium three-quarters, and iron one-quarter; I reversed that arrangement and tried many other vulgar and decimal fraction schemes.

Citrate of potassium was mixed with them in varying proportions; gum arabic was added to them sometimes, and sometimes arrowroot got into the mess.

Some of the results were fair, and some of them were brunette, but none were quite satisfactory.

Then I decided to try chlorid of uranium, but could not buy any and had to prepare it myself.

The job is not difficult; dissolve any

given quantity of the nitrate in water and add stronger ammonia as long as you get a precipitate. Wash the precipitate until it no longer smells of ammonia; drain it and dissolve it with just enough hydrochloric acid to effect solution and set it aside to crystallize; 380 parts of the nitrate will give you 327 parts of the chlorid.

Well, having procured the chlorid, I set about repeating the experiments, substituting that for the nitrate and some of the returns were strictly good.

I have about fifty formulæ that I worked out at the time, but the following is the one that suited me best:

First, dissolve 20 grains of gum arabic in 1 ounce of distilled water and then dissolve the following in that, dissolving each separately and in the order given, making sure that each one is dissolved fully before the next one is added:

Chlorate of potassium..........	5 grains
Nitrate of copper................	7 grains
Citrate of potassium............	150 grains
Uranium chlorid	50 grains
Citrate of iron and ammonia (green)	90 grains
Chloroplatinite of potassium.....	25 grains

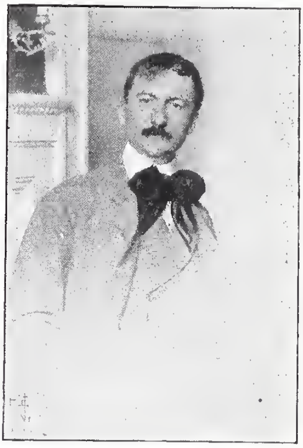
This will give you a rather syrupy mixture.

It is to be applied to the surface of a starch or arrowroot-sized paper in the strength of one dram to each sheet of 10 by 12 paper, and it must be dried rapidly to prevent the sinking in of the sensitizing solution.

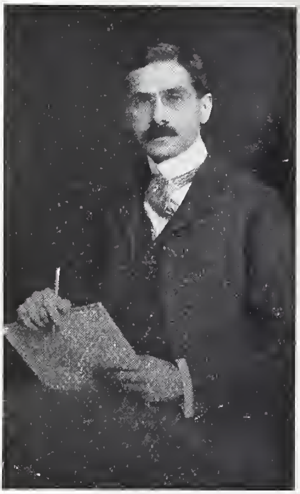
As the coating and drying of the paper is a rather particular job and one that must be done exactly right in order that success may be obtained, I will give you a separate paper on that subject.

RALPH MARTIN.

MR. HENRY TROTH.



MR RUDOLF EICKEMEYER, JR.



MR. CHARLES I. BERG.

JUDGES IN THE KODAK COMPETITION.

We reproduce, above, the portraits of the three gentlemen whom the Eastman Kodak Company has been fortunate enough to secure as judges in the Kodak Progress Competition. They are certainly to be numbered among the most progressive photographers of the country, and have had a wide experience, not only in the making but in the judging of photographs. Contestants in the kodak competition can rest assured, therefore, that their work will be intelligently passed upon.

Mr. Eickemeyer made a name for himself as an amateur photographer many years ago. His field was a broad one. Home portraiture, and especially pictures of children, seemed his special hobby; but he was not confined to one groove, and many delightful landscapes are found among his best efforts. Photography was his very life, and some seven years ago he entered the professional ranks. He does not, however, confine himself to studio work, for one still sees his home pictures and his delightful landscape bits in the better class of illustrated publications. Among Mr. Eickemeyer's successes is the delightful series of the "Kodak Girl," which the Eastman people have been using during the past two years.

With Mr. Berg photography is purely a pastime, but he has taken hold of it in no half-hearted way. An architect by profession, his training has been, of course, along artistic lines, and the result is shown in the perfect balance of light and shade to be found in his pictures. Mr. Berg's work has been largely in the line of portraiture, and he is one of the very few photographers who has learned the art, for art it unquestionably is, of so photographing nude figures that the resulting pictures are without a shadow of suggestiveness.

As a landscape photographer Mr. Troth has no superior and probably no equal, in this country at any rate. There are others who have perhaps made names for themselves because they have photographed an enormous mountain upon an enormous plate. Mr. Troth's work has not been in this line; he is rather a depicter of rural life. Just a bit of the orchard with its blossom-laden trees; a field of daisies and buttercups; the cows coming up the lane at milking time; the sparkling stream, where the barefoot boy tempts the wily speckled trout — these are the subjects which he delights to portray with his camera. The public owes much to Mr. Troth for his contributions of pictures such as these to the illustrated magazines. They give to tired city people a most welcome breath of the freshness of country life.

This jury, then, is made up of broad-minded men, who know the difficulties that the amateur encounters, who can see the ideals that he is striving for, and appreciate his successes. We hope that our readers will enter their work in the competition — and win many prizes.

PICTORIAL PHOTOGRAPHY TO BE RECOGNIZED AT THE ST. LOUIS WORLD'S FAIR.

We are in receipt of the following letter from Colonel Ockerson, Chief of the Department of Liberal Arts of the World's Fair, St. Louis:

The Photo-Beacon Company, Mr. F. Dundas Todd, Security Building, Chicago:

Dear Sirs,— I hand you herewith an advance copy of Circular No. 5, of this department, relating to photography at the St. Louis Exposition, and respectfully invite your attention to the arrangement that has been made to place certain classes of artistic photography in the Department of Art, and would be very glad to have you give space to this circular in the columns of your valuable magazine.

Trusting that this department may have the support of the photographic fraternity in general, I beg to remain

Yours very truly,
J. A. Ockerson,
Chief, Department of Liberal Arts.

On referring to the circular we find that an addition has been made to Class 55 with reference to the products of photography, in the following terms: "Artistic photography as applied to portraiture, landscape, etc." And following occur these paragraphs:

"Special provisions will be made for the display of selected high-grade examples of artistic photography.

"Admission to this class will be confined strictly to such art work in photography as may satisfactorily pass the critical inspection of the National Jury of Selection of the Department of Art.

"The pictures from United States exhibitors which are thus admitted shall be hung in the United States section of the Art building, to such extent as the room available will permit.

"The pictures from foreign exhibitors will be admitted under similar rules, but must also, in all cases, conform to the rules of the respective foreign sections to which they belong, as to whether they can be hung in the foreign sections of art or not.

"A suitable, attractive place will be specially prepared in the Liberal Arts

Palace, where pictures selected in accordance with the above rules may be properly displayed, in case they do not find suitable space in the Art building.

"Under this system there should be gathered such a fine array of artistic photographs as will merit the admiration of art connoisseurs, and win the plaudits of artists of the older schools of the brush and pencil.

"The very large number of professional and amateur photographers in all parts of the world who are daily producing pictures of a high order will doubtless gladly lend their aid in gathering a most interesting and valuable display of their work."

The long fight inaugurated by Mr. Julius C. Strauss has at last been brought to a very satisfactory conclusion, and we hope that every amateur and professional photographer with pictorial aspirations will make it his business to show his appreciation of the action of the directors of this exposition by sending specimens of his work for a display in 1904. Photographic editors the world over will confer a great favor upon those interested in the art in this country by giving wide circulation to the above facts, as the management and the visitors alike will be desirous of making this the finest display of pictorial photographic work that has ever yet been gathered together.

THE Bausch & Lomb Optical Company, Rochester, New York, have just issued a booklet with the suggestive title, "An Afternoon with Plastigmat f-6.8, and Volute." The booklet is nothing more than the reproduction of twelve consecutive exposures made one afternoon on the University campus, showing various attitudes of a group of athletes pole-vaulting, jumping, shot-putting, etc., and as a specimen of what can be done in extra rapid photography with an Iris diaphragm type of shutter it is extremely interesting and should be in the hands of every one interested in photography. The illustration which we reproduce herewith is one of the pictures made at the same time as those shown in the booklet.

THREE THOUSAND DOLLARS FOR PHOTOGRAPHS.

The Bausch & Lomb Optical Company, Rochester, New York, announce a photographic competition, open to amateur and professional photographers, residents of foreign countries as well as the United States, the object being to bring together as large and representative a collection of photographs as possible, in order that the present development of the photographic art and the progress in lens and shutter construction which has been made during the past quarter century may be made evident. It is during the last quarter century that the greatest progress in photography has been made, and it is also during this period that the photographic products of the Bausch & Lomb Optical Company have been developed, although they have been makers of lenses for upward of fifty years. The extraordinary number of photographic lenses and shutters of the highest grade which this company has produced, now amounting to several millions, and which are now used in all parts of the world, will make a collection of pictures produced with them fairly representative of the possibilities of photography at the present time. It is therefore hoped that photographers in general will enter the competition and assist us in making it as valuable as possible, both to the competitors and to photography at large. In order to enhance the interest of photographers in all branches of photographic work, the awards have been divided into a number of classes, such as landscape, portrait, genre, instantaneous, architectural, interior, etc. Several special awards for telephoto and other work have been provided, also a special award for users of the Bausch & Lomb rectilinear lenses on various makes of hand cameras, kodaks, etc.

A special booklet, giving conditions, arrangement of classes, awards, etc., will be mailed free on request.

EDITORIAL TABLE.

H. A. Hyatt, 410 North Broadway, St. Louis, has just issued a catalogue — No. 103 — which is entirely devoted to the needs of amateurs. In it will be found full particulars of the very latest instruments on the market, also " stand-bys " in minor needs. Copies can be had on application.

Andrew J. Lloyd & Co., Boston, Massachusetts, have just issued their Photographic Encyclopædia for 1902, which is very much on the lines of previous years. At the beginning will be found a number of very practical and interesting articles on very timely subjects. The first is entitled, " Quick Lenses and Their Application to Photography," by Dr. Rudolph, the inventor of the Zeiss and anastigmat and other lenses. Following this, Frank S. Dobbins has an interesting and very fully illustrated article on the "Advantages and the Ease of Color Photography." " Lantern Slides," by Alexander B. J. Moore, is very succinct, and contains a vast amount of information in very little space. An unsigned article on " Stereoscopic Photography " and its desirability, is worth serious consideration, especially as it points out the simplicity of stereoscopic work when undertaken with films. Bunched together is a lot of very valuable paragraphs under the heading of " Practical Points on Photography." The other four hundred pages of the book are devoted to a host of practical formulæ for all kinds of processes, and descriptions of every conceivable bit of apparatus or tool that one could possibly want in photography. The book can be had on payment of 20 cents, which is just sufficient to pay cost of mailing.

The Gundlach Optical Company, Rochester, New York, have just issued the 1902 edition of their catalogue of Korona cameras. In its pages will be found the usual description of all the instruments manufactured by this company, but especially interesting are the details of the new improvements in minor points that have been introduced by the firm, perhaps the most noticeable of which is an original design in the swing-back, which is evidently very simple in its nature, and which, at the same time, permits of the swing being used from the center, the theoretically perfect position for it. The catalogue also contains all essential particulars regarding the firm's ordinary and anastigmat lenses, shutters, finders, plateholders, etc. A postal will bring a copy to any one desiring it.

The C. P. Goerz Optical Works, 52 Union Square, New York, announce that they have just placed on the market a novelty in cameras which they call the Goerz Photo-Stereo Binocular, which title fully indicates the character of the instrument. In the first place, it is a stereo camera, making two exposures at once like any other instrument of this class, but when desired, one of the lenses can be prevented acting in a photographic way and then it can be used as a view finder for the other, and when such is the case the instrument can be focused by it so that the image shall be critically sharp. It need scarcely be said that when used as a single lens instrument the image of the subject can be seen right up to the instant of exposure. By a very simple device the photographic lenses can be set aside and in their place two viewing lenses are brought and the instrument can now be used as an opera glass, giving a magnification of two and a half times, this being the ideal for such work. For use in the open field, still another provision is made, and lenses magnifying three and a half times are brought into position, so it will be seen that this little instrument is a veritable *multum in parvo,* combining, as it does, an excellent single photographic camera, a stereo outfit, a theater opera glass and a field glass, and the makers guarantee that it will work perfectly in each of these conditions. The instrument is very small, being only 3½ inches in height and weighing nine ounces. Those who are interested in this instrument will find full description of it in a booklet issued by the firm. In its pages they will find about fifty reproductions from negatives taken by it, also one 5 by 7 enlargement in order to show that negatives are so sharp and so good that they may be readily enlarged.

In Scotland, just prior to the annual elections in November, it is the custom of the retiring members of the municipal councils to celebrate the event by taking supper together in some public restaurant or hotel. The community being possessed of a certain amount of humor, have not inaptly defined this as being the greetin' (weeping) supper. The first number of the sixth volume of *Camera Notes* may, in some respects, be called the Greetin' Number of the series, as the very first article is devoted to a valedictory address by the editor and committee of management, who announce that arrangements in connection with the club are such that they feel they can not continue longer to be associated with a club journal. In addition, it is stated that they have issued in another form a general notice to the effect that from this date they shall not be directly or indirectly connected with any branch of the publication, the severance being absolute and complete. This communication is over the signature of Alfred Stieglitz, the editor; Joseph T. Keiley, Dallett Fuguet, John Francis Strauss, associate editors. The number itself is a very handsome production, beautifully illustrated by means of photogravures and half-tones, most of which can be considered very good pictures by even ordinary pictorial individuals. Most of the articles, directly and indirectly, deal with what this enthusiastic and devoted band feels it has done for the cause of pictorial photography, and the statements certainly do not err on the side of modesty. Exceptions might be taken to some of the statements made in the course of the number, but believing in the motto that one should not speak anything but what is good of the dead, we will pass them by without further comment. Frankly, we regret the severance of these gentlemen from the editorial management of *Camera Notes.* Like the rest of us, they had their illusions, whose most interesting feature was that they were different, and therefore, provided material for good, healthy discussion, which at times, undoubtedly, got a little warm. One and all, they were splendid fellows who, in private, one had to respect and love, and it is to be regretted that they took themselves too seriously and were more or less hypersensitive. It is to be sincerely hoped, for the good of photography, that they will find new scope for their energy in the photographic journalistic field, as, without them, the waters might flow far too smoothly, because it is only when the waters are troubled that salvation comes.

That *Camera Notes* will be continued is evident from the following notice:

> New York, June 5, 1902.
>
> By order of the Board of Trustees I am directed to notify the subscribers and advertisers that *Camera Notes* will be published quarterly as heretofore and at the same price, $3 per annum or $1 per number. The magazine will be edited and managed by Mr. J. C. Abel, who succeeds Mr. Stieglitz. The form of *Camera Notes* and its previous high standard will be fully maintained.
>
> H. B. Hart, *Secretary.*

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL, Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

Negative by Mrs. Sara W. Holm, Sedalia, Mo.

MUSIC.

THE
PHOTO-BEACON.
EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. AUGUST, 1902. No. 8.

"AMUSEMENT."

I have a faint recollection that in my boyhood days the working class of Great Britain summed up their ambitions in one short verse of rhyme to the following effect:

> "Eight hours' work,
> Eight hours' play,
> Eight hours' sleep
> And eight 'bob' a day."

It may be explained that "bob" is the slang term in Britain for a shilling, equal in United States money to 25 cents, so that $2 per day was their conception of good pay. I remember that a very serious discussion arose in the newspapers as to what the workers would do with their eight hours of leisure, supposing they succeeded in securing their demands, and even kind-hearted men came to the opinion that it would be perhaps the greatest misfortune that could happen to the laboring class to have so much leisure on their hands. From that they argued that if with two hours' leisure they perpetrated so many wrongs against good morals, with double the time they would commit the same proportion of additional offenses. Evidently, they were of opinion that the heart of man was unutterably vile and longed for nothing so much as an opportunity to do what was wrong. We know a little better now. We realize that while Shakespeare was right when he said: "How oft the means to do ill deeds makes evil deeds done," there is a corollary which might be worded: "How oft the means to do good deeds makes good deeds done." In other words, the opportunity is more apt to make the man than the man to make the opportunity.

It may have been noticed that the philanthropic gentlemen did not seem to do any worrying about the conduct of the laborer during sixteen hours of his time; that is to say, they felt sure he would not commit any offenses in his hours of sleep or those of labor, and their opinion is a perfectly sound one, for it is during the surplus hours of the day that the average individual goes wrong. I remember in my childhood I had repeatedly dinned into my ears the famous lines of pious Dr. Watts, "Satan finds some mischief still for idle hands to do," and so every effort was made to keep me out of trouble by seeing that I had some useful job on hand.

We now offset Dr. Watts' opinion with that of the old proverb, "All work and no play makes Jack a dull boy," and seriously consider how best to amuse, not only the young folks, but those who are older grown. In no period of the world's history has there been such a consensus of opinion about the value of sports, and the greatest change I have noticed during the ten years of my life in this country has been in the character of the play of the people. In 1892 I found that the ideal of a good time in Chicago was to get out and "paint the town red." In 1902 the ambition is to get out in the open air and go in for some such sport as golfing, bicycling, hunting, fishing or photography. In 1893 I was one of a score of men who were scared up to take part on the occasion of the opening of the links of the Chicago Golf Club, and in my enthusiasm I wrote a column and a half story about the event, for which, by the way, none of the Chicago papers could find any room, and so it had to see the light in a local publication devoted to Scotch people. To-day there are at least a score of clubs round about Chicago and every year sees additions to their number.

Seeing that amusement bulks so largely in our daily life and that it will, in all probability, do so even more in the future, it may be wise for us to investigate its purpose in our life, so that we can utilize it in the best possible way. The young of all animals appear to play, and even the most sedate of us have laughed over the antics of the kitten and the puppy as they frolic about in an apparently ridiculous way. But, if we observe these youthful acrobats, it will be noticed that every movement, every effort, is in harmony with the way in which the adult will secure its prey. The kitten crouches beside the chair or underneath the stool as it watches the slowly moving handkerchief, draws itself forward step by step with its body as close to the ground as it can possibly be and then, with a sudden jump, alights on the moving object, gripping it fast with its claws, and the next instant burying its teeth in it. The puppy dashes after the moving ball, grabs it in an instant and then proceeds to shake it as if he were trying to shake the life out of it, so that, while apparently amusing themselves, these animals are actually undergoing a very excellent course of study that teaches them how to secure their food.

The play of man apparently differs from that of the lower animals, inasmuch as it is apparently without ultimate purpose in providing him with sustenance. This is true to-day, but it was not always so, and in the development of the child we find rehearsed again part of the history of the race. The primeval man had to climb trees, and so every baby takes to climbing stairs and fences as naturally as a duck takes to water, and no matter how often he falls, he returns to his sport. Older-grown, he wants to run, and here we have the period when a man had developed into a flesh-eating animal and dependent upon active bodily exertion for the satisfaction of his wants. At about this stage every boy is ambitious to become a farmer, for domestication of animals evolved out of the hunting period. It is also at this period that our young savages believe themselves to be " red Indians," and their daily vocabulary comprises such words as bows, arrows, spears, tomahawks and so on. At about the age of twelve they begin to enter civilization and after lingering a little in the days of the crusader, they realize that they are actually living in the twentieth century and turn their energy in the direction of such modern sports as baseball, swimming, skating, golfing, etc.

In comparing the play of children with that of the lower animals, we find they have, after all, one feature in common, namely, that of pursuit, and in this word we find summed up the greatest pleasure that all animals know, whether of the very lowest type or human beings themselves. And so, in trying to devise rational amusement for ourselves, our young folks, or for those older grown, we must never forget this natural instinct, for unless we do we will find the individual will revert to an earlier condition of society and be apt to betake himself to pleasures that are now out of date. Two months ago I had the pleasure of an outing down South, traveling on a steamer from St. Louis, down the Mississippi, to Cairo, up the Ohio to Paducah and up the Tennessee as far as Riverton, Alabama, then returning by the same route. On the trip I was very much interested in the negro roustabouts, and I think I rather shocked some of my fellow voyagers when I would not agree with them in their condemnation of the gambling sport that was evidently the sole amusement of the negro in his moments of leisure, and some of them were more than indignant when I expressed the opinion that at the present time gambling was actually advantageous to the colored people of the South. All primitive people are born drinkers and gamblers, and those vices have been advantageous in the past as being the only forces that compelled individuals to get together into groups and learn how much it was to their advantage to work in unison. Whenever this lesson of solidarity has been learned, these habits will no longer be of any advantage, but positively harmful, and have got to be eradicated as speedily as possible. It is not enough to say to the individual, "Thou shalt not do," for reversion to type is too potent a factor. The only way to elevate them is to make it easier to travel along the paths of modern ideals than to revert to the past.

It is incumbent on those on whom lies the responsibility of choosing the amusement for a young person to study well his tastes in the light of the principle that I have laid down. It is not enough to comfort one's self with such proverbs as, "Train up a child in the way he should go," believing that "When he is old, he will not depart from it," or, "As the twig is bent, the tree is inclined." These proverbs have their origin in the belief that human beings were all made of the same material and could be fashioned like so many cups and saucers out of a small batch of clay. We know better now; we have learned that every individual has his own peculiar mental quality which predominates through all his acts, which we might define as his "timbre," just as one musical instrument differs from another, and it is our business to discover that quality or natural bent and accommodate ourselves to it. Every virtue has its corresponding vice and if by chance we miss cultivating the one we will certainly develop the other. It is absurd, therefore, to endeavor to

Negative by Mrs. Sara W. Holm, Sedalia, Mo.

A FAMILY GROUP.

force a boy of sporting tendencies to keep entirely from athletics and content himself studying flowers, for if we do he will at the first opportunity — that means manhood — break away into haunting club rooms and gambling dens. Far better to let him have his full swing for his boyhood's days in boyish sports.

Naturally, man ought to live in the open air, but unfortunately, almost half of the population of the civilized races are penned up in cities. In about ten thousand years from now the race will have become accustomed to such an environment and if we are unselfish enough to work for the good of the race, we individually might make desperate efforts to hasten the time when human beings shall become habituated to this environment. By keeping in our rooms as much as possible, by avoiding exercise of any kind, we could soon kill off those of us who are not fit for such an environment and develop a race of mortals who are, feeling that our headaches, stomach upsets, fits of nervous depression, spells of nervous prostration and such like, while exceedingly uncomfortable to us as individuals, will redound ultimately to the benefit of the race.

I am afraid that, however philanthropic some of us may be, a very few are willing to undergo a life of continuous misery for such problematical results, and one and all of us are desirous of enjoying at least the pleasures of good health. The best tonic in the world is fresh air. Anything that will tempt human beings out into the open can not be anything but good. In selecting an amusement for one's leisure hours, this must be the first, and all others considered as but secondary. The sports of boyhood are worthless to the average man after he is twenty-five years of age, as he then is almost certain to be physically unfit for active participation in them. I know of only three outdoor sports that one can follow after that age, namely, bicycling, golfing and photography. The first could not stand the test of time because it lacked the essential element of pursuit. Only a few cared to go on the racing track and even a comparatively small number developed the craze for "century" runs. Beyond that there was nothing as an objective, and so the craze has gone and the bicycle is now simply a means of locomotion from one point to another like a street car or a railway train. Golf can be followed from infancy to old age and many of the most enthusiastic players I have ever known were long past the age of three-score and ten. The element of pursuit is very strong in this amusement and as a means of open-air exercise it would be hard to surpass it. Unfortunately, in this part of the world it is rather expensive, and thus the multitude are debarred from taking part in the game, but I have no doubt at no distant date communities will realize its value and provide here, as is done in the land of its origin, public courses on which it can be played with practically no expense to the individual.

Good as are these two pastimes, they have in common one great drawback — they are limited to the summer season and do not provide for the long winter months. This is where photography easily excels all sports. When properly followed, it has in it at every turn the element of pursuit, whether it be the making of a single picture or the ambition to excel in a particular style of work. It most emphatically leads people into the open air, compelling them to exercise their limbs in walking many a mile they never thought of covering had it not been because of an objective. It is the only amusement I know of that can be followed all the year round, at any hour of the night or day, indoors or out, that tends to mental development while the body is being exercised, and therefore, from whichever way we view it, it is simply ideal.

Amusement has been recognized as a necessity to body and mind, and the day is not far distant when photography will be universally acknowledged as the ideal amusement. F. DUNDAS TODD.

Now Ready — New Edition of the Photo-Beacon Exposure Tables brought up to date. Price 25c.

PICTORIAL COMPETITION No. 50.

This proved to be an exceedingly interesting competition, and some very clever work was sent in.

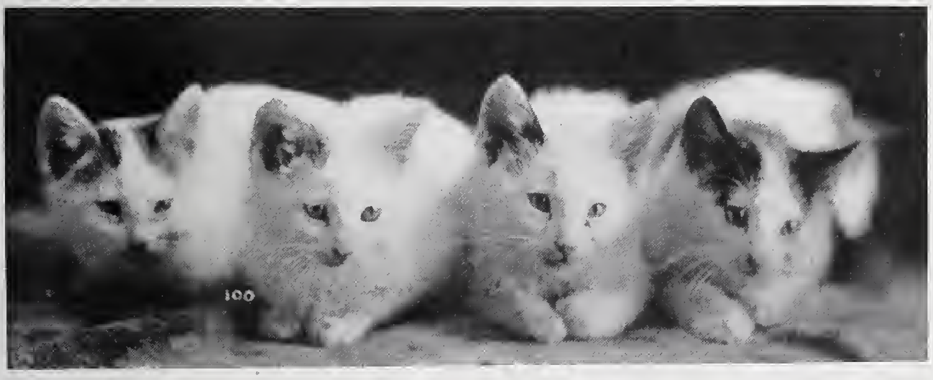
The judges made the following awards:

First prize — Miss Belle Johnson, Monroe City, Missouri.

Second prize — Gus Horlin, 5127 Wentworth avenue, Chicago.

Third prize — Charles Vendervelde, 28 Sinclair street, Grand Rapids, Mich.

In accordance with suggestion made in recent issue, the following were named by the judges as deserving special commendation: William M. Gilbert, Mrs. W. W. Pearce, Sara W. Holm.



Negative by Miss Belle Johnson, Monroe City, Mo.

FIRST PRIZE.

Miss Johnson owes her success to the beautiful rendering of the fluffiness which is so characteristic of kittens. The definition is not too sharp, but just sharp enough to exhibit this dainty quality, and this fact may be suggestive to some of the readers.

PARTICULARS OF WINNING PRIZES.

First prize — No particulars given.

Second prize — Made late in the afternoon in June in cloudy weather with stop No. 8. Exposure one second. Printed on Velox paper.

Third prize — Made about 9 o'clock A.M. near the middle of September on Eastman film, bright sun. Largest stop of lens, exposure 1-50 of a second. Printed on American platinum paper.

FUTURE COMPETITIONS.

Competition No. 52 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 53 — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary let-

ter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

CHICAGO SALON.

The Chicago Society of Amateur Photographers has just issued a booklet announcing that the third salon in connection with this society will be held in the galleries of the Art Institute, Chicago, from December 16, 1902, to Janary 4, 1903. The booklet contains regulations for the sending of pictures and the methods by which they will be judged. The jury of selection is as follows:

Nominated by the Art Institute of Chicago — Mr. Oliver Dennett Grover, Mr. Ralph Clarkson.

Nominated by the Arts Club of Chicago — Mr. Walter Marshall Clute, Mr. Edward S. Cameron.

Nominated by the Chicago Society of Amateur Photographers — Mr. Frederick Richardson.

It may interest our readers to know that while all the members of the jury are artists, yet one and all of them are familiar with the use of the camera and are perfectly familar with its possibilities.

Copies of this booklet will be sent on application to the secretary of the Chicago Society of Amateur Photographers, Art Institute, Chicago.

THE PHOTOGRAPHIC CLUB OF BALTIMORE.

The Photographic Club, of Baltimore City, announces that it will hold a photographic print contest at its clubhouse, 870 Linden avenue, Baltimore, Maryland, from November 1, 1902, to December 1, 1902. Cash prizes, $75. Full particulars will be sent on application to F. W. McAllister, chairman, 3 North Charles street, Baltimore, Maryland.

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER VIII.

PLANES.

I remember one time in Paris of a lot of students having a heated discussion at a café table about "What is Art?" There were all kinds of answers, but I remember only two. Albert Sterner said that art could be summed up in one single word, "Harmony." This did not seem very satisfying, for, while all art is harmony, all harmony is not necessarily art. Louis Loeb had a far better definition —"Art is nature seen through a temperament."

It is difficult to find a definition of anything so subtle, so far-reaching, so soul-inspiring as art. These answers only come near the mark, and it is likely that art, like love, will go on until the end of time without a satisfactory definition.

To begin with, the bare statement of facts, pictorially, is not a work of art, any more than it would make good literature, if written. The personality of the artist must come into the product, not necessarily something more than nature, as is often said, but nature culled and arranged to the expression of an idea. The artist sees in nature some particular message for him, something he, and he alone, sees; and it is this quality that he must bring out and reproduce with whatever means he has at his command, whether it is camera or brush.

For instance, two equally great painters painting from the same model, will get widely different results. If one is right as far as getting the truth is concerned, the other must be wrong. Neither of them may be right, yet both have painted a beautiful work of art, because each has seen in the model what appeals to him, and made it the dominant note in his canvas.

We all see nature through different eyes, and a man of individuality is sure to see something which, if he can reproduce it, will give his work a character that will be all his own. As I have

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*Copyright, 1902, by F. Dundas Todd.

said before, art is something more than simply copying nature. My reader must grant on the start that the best negative is not the one with the most detail in it. I remember that several years ago there was a craze for making large portrait heads with the focus so sharp and clear that it looked as though one could grate a nutmeg on the pores of the skin. At the same time, the ears would be out of focus and feathery. It was before the days of the fine papers the photographer has at his command now, and these portraits of realism rampant were about the most disagreeable things one could imagine. I would as soon have one of Mrs. Jarley's wax figures of a friend in my room, as one of these photographs. However, this desire to see all the little things and forget about the big ones is one of the most natural things in the world. It comes with our childhood. How many times have you seen a child draw a face on the sidewalk with a piece of chalk. As a psychological study, it is interesting to note that he makes the same mistake as the primitive savage makes

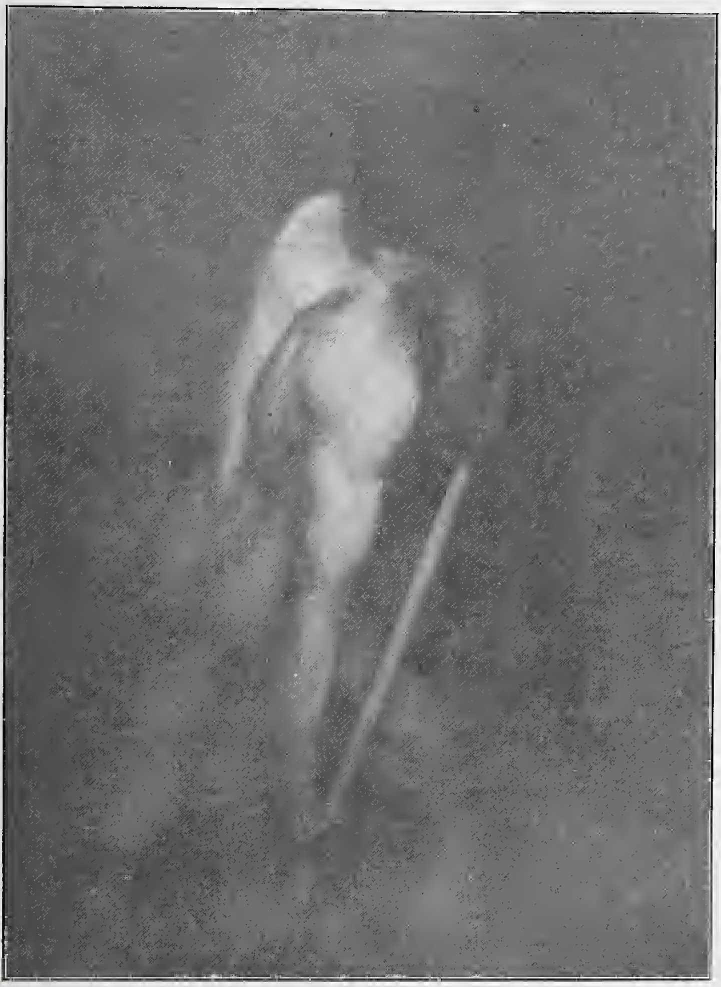

Fig. 19.

with his picture writings. They remember none of the big proportions of the head, but there is not a single detail that they do not recall.

In the chalk face upon the sidewalk you find indication of the eyes show the lids, the pupil and the iris, the lashes and the brow. There is no space allowed for the head itself at all, but the hair, of which there is always plenty, comes immediately over the eyebrows. The nose is two holes for the nostrils and there is a grinning mouth full of teeth. Chin whiskers are usually added below and the ears are tacked on the side.

We are born to scrutiny, so that it is no wonder that we find it difficult to sacrifice the details and see broadly. However, this sort of treatment is absolutely necessary when we come to pictorial photography. This is especially true in the treatment of the nude. In the first place one will not find a perfect model in a thousand, and if he did, a strong, clear photograph of such a one would strike us as shocking and crude. I think I voice the opinion of all when I say that good photographs of the nude are the exception, and there is not one out of a thousand that you would care to put upon your wall. Most of them are such gross and naked looking things, simply because they are so realistic, and there is not enough left to the imagination, so get over the idea that the best photograph shows the most. Remember what Hunt says: "Don't blister your picture all over with facts." Strive to get the plastic and suggestive qualities with a certain touch of mystery.

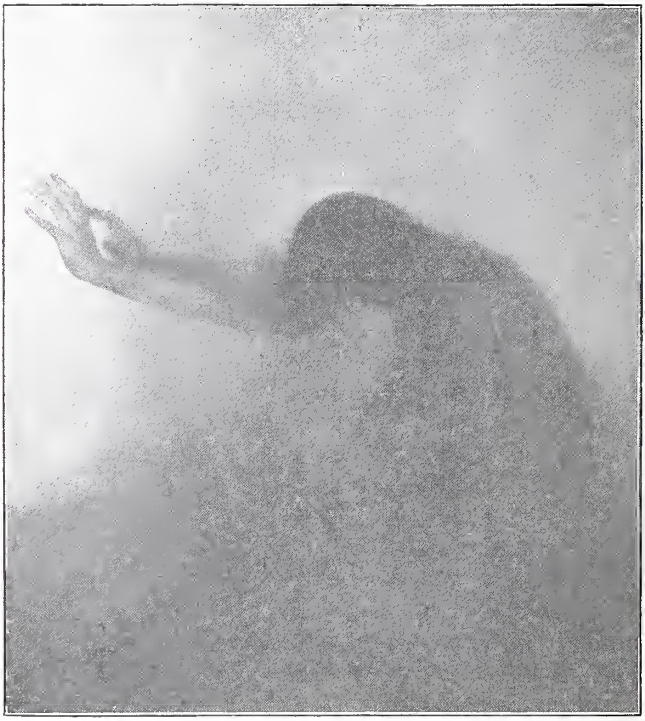

FIG. 20.

I publish with this paper a nude by Mr. W. B. Dyer, of Chicago, which was one of the notable things in the photographic salon held in New York last spring. In my opinion, this performance is something more than the work of a machine. An ordinary photograph of the same model would undoubtedly have been one of the ugliest and most commonplace things in the world, but with the masterly treatment of the artist we see more and less than a naked man with a hammer in his hand. Less, in that the outlines of the legs are lost in the tender, transparent shadows in the lower part of the picture, and the minute detail was sacrificed generally by its plastic treatment; more in that we have a very pleasant impression of power and muscular force. In other words, the mere model is made subservient to the idea. The lighting is simple and so arranged to accent the man's splendid shoulders.

The picture is not a mechanical representation of a naked man, but is a picture made with the thought and feeling of an artist who simply used the model as the means to an end. To my mind, this sort of photography is climbing into the field of art.

In this picture of Mr. Dyer's, as well as those of Miss Rose Clark and Elizabeth Flint Wade, published last month, the simple expedient of lighting up and thus accenting the interesting spot was effectively used. This simple trick of putting half or whole shadow over the unimportant parts, as the case may need, is very little understood, or very little used even by good photographers. Many a good photograph has been spoiled by the staring white of a cuff or bit of lace. It is the simplest form of variation as applied to lighting. The same principle will extend to a group as I said in one of my first papers. All the figures can not be in full light with all the hands and feet showing, if you are to get an artistic composition.

We will now carry the subject further along and show how lighting may be manipulated to give the picture depth. If we have the two principal planes of our picture unavoidably full of detail — I mean the foreground or the middle distance — we can put either one of them into shadow or half shadow, as the case may need, thus simplifying it. If it is the foreground that is thrown into shadow, it will still keep its place, but with less importance and the interest will be immediately centered in the

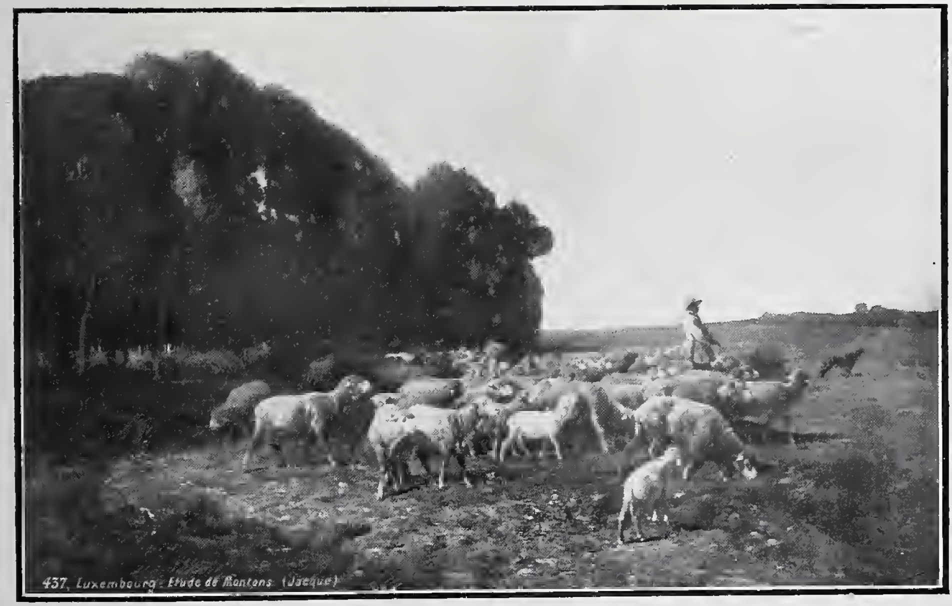
437, Luxembourg - Etude de Moutons (Jacque)

FIG. 21.

plane in full light beyond. This plane, in turn, can be so arranged to come in sharp contrast with dark in the plane still beyond. This process of sandwiching a plane of light between two planes of dark will be found very effective in large arrangements out of doors or in, and will give a great sense of depth. In this way otherwise large spaces of light are broken up in a pleasant and varied manner, thus avoiding monotony.

Cloud shadows thrown over a large tract of country, that one sees from an eminence, give a good illustration of what I mean. Such a landscape, for this reason, will be found more interesting under these conditions than it would be on a perfectly cloudless day, when a whole stretch of country is under broad sunshine. This sort of lighting will be found particularly effective for cattle and sheep pictures. I publish with this article a painting by Jacque that has a suggestion of this treatment in it. The shadows on each side of the immediate foreground center the interest more definitely upon the sheep. The animals in front to the left come into sharp contrast with those in shadow beyond. They, in turn, form dark silhouettes with those in full light in the distance. This not only gives a pleasant variation to the light, but it adds depth to the picture as each plane, whether light or dark, seems to be thrown back by the plane in front of it.

NOTICE.

The officers of the National Convention have just issued the program for the meeting in August at Buffalo. From cover to cover it is a most beautiful example of the printer's art, and nothing finer could be expected.

THE London Photographic salon will be held at the Dudley Gallery, Egyptian Hall, Piccadilly, London, from September 19 to November 1. American exhibits must be expressed from New York on or before August 15. Entry blanks and further information can be had on application to Alfred Stieglitz, 3 West Twenty-ninth street, New York.

MOTIVE AND METHOD IN PICTORIAL PHOTOGRAPHY.

(Abstract of President's Address to the Edinburgh Photographic Society.)

In the history of our art there is no aspect of it so remarkable as the extraordinary progress and popularity of what is, for want of a better phrase, termed pictorial photography. Sooner or later the majority of the great army of photographers, save those who have an inclination for special phases of the scientific or technical side, are attracted to the pictorial aspect. Within the last ten years exhibitions have become the order of the day. Increase in the numbers who pursue an art does not necessarily imply real progress or advancement of aim. Taking the average exhibition, we may find several hundred productions covering the walls, but to say what proportion of these may legitimately be included within the category of successful pictorial effect is an altogether different matter. It may be a bold statement, but there is little doubt that perhaps less than a tenth of the work which is sent to the average photographic exhibition can truly be termed pictorial.

In looking over the pictures in most exhibitions the candid critic who has the welfare and progress of pictorial art at heart, must confess to a feeling of disappointment, and sometimes of disallusionment, as to the possibilities of our art as a means of pictorial representation. Pictures are shown with poetical titles, nicely composed according to what are termed the laws of composition, executed with the highest technical skill, tastefully mounted and suitably framed, and yet they awaken no sentiment of delight or pleasure in the mind of the beholder, such as a real work of art ever does; they are good photographs, but nothing more. Others again captivate us by their charm; we feel a real pleasure in beholding them; we go back to them with increasing pleasure; we feel in a modified degree, but none the less feel, somewhat of that pleasing sensation with which we look at and admire a great work of art. Why, then, should there be these different feelings created in the beholder of works which, judged by purely photographic standards, may be of equal excellence? The explanation is to be found in the fact that the latter bear the stamp of motive and personality, while the others might be produced by any one who is skilful at photography.

What has been termed the "fatal facility," with which we may expose and produce photographic prints, is responsible for much of this slovenly work which is sought to be termed pictorial. The best of us are at times afflicted with this fever to produce, and we too often only realize our weakness and our errors when we see our productions hanging alongside of others with the stamp of pictorial on them as clearly as if they were labeled. The importance of motive, or emphasis of idea, has been borne in on me in a most forcible fashion while looking over some of my own productions which have been lying aside for a time. In trying to recall the motives which prompted me to portray the effects I had done, in vain did I ransack my memory for definite ideas or purpose. My one wonder is now that time, energy and skill were ever exercised in the production of prints so stale and unprofitable from the pictorial point of view.

It can not be too strongly emphasized that the first essential feature in a picture is that it should be interesting. The late H. P. Robinson, who did so much in his time for the advancement of our art on the pictorial side, once said: "The one intolerable defect in modern art is its dulness." If this can be said of art generally, how aptly it applies to photography. It is true, within recent years, many photographers have tried, and a few succeeded, in breaking down the barriers of sameness. Others have

Negative by O. F. Langman, New York.

IN THE ADIRONDACKS.

imitated the successful men, and the result has been too often pure imitation or eccentricity. This will always be a danger in photography — it is so easy to imitate. If we want to be successful then in our pictorial attempts, our productions must exemplify some idea, tell some story, fascinate by their grace, charm and expression. The question arises, how are we to train our minds and our eyes to be able to select suitable subjects into which we may infuse motive and the personal touch of individuality? It may be questioned whether, in our pursuit of the pictorial, we take advantage of the opportunities which an intimate study of nature will afford in stimulating our imaginations and suggesting ideas for pictures. It has been said that "art must anchor in nature, or it is the sport and breath of every folly." So far so true, but the photographer, mostly with a meager art training, is apt to be led into pitfalls, unless he is an intimate student and lover of nature. "Nature never cares whether she has a sky or a foreground; the photographer should take care that the bit of her he selects has both." The more we know of nature the better we shall be enabled to interpret her, not slavishly, but taking her at her best — watching and waiting for the subtle effects she sometimes, without effort or design, spreads out for the observing and discriminating photographer to make use of, and to fashion into a picture which he may justly claim as his own.

Many photographers who become imbued with the desire to make pictures miss much of the pleasure and most of the suggestiveness which a close study of nature invariably gives. They set forth with their cameras bent on securing something that will tell at the next exhibition. As they pursue their quest their view meter or the camera is ever and again set up, and they pass on to something else if the subject does not conform to the laws of composition or their notions of lighting. The beauty that meets them in their path is passed by without appreciation — the wayside flowers, the graceful trees, the twittering birds in the woodland glade, the ever-changing panorama of clouds scudding across the sky, the subtle light glancing over here and there, throwing objects into shadow and relief with ever-varying charm — all this is as nothing to them if it provide not subjects for their camera. They are like Wordsworth's "Peter Bell":

> "The primrose by the river's brim,
> A yellow primrose was to him,
> And it was nothing more."

We would improve our pictures both as to motive and treatment much more if we were to leave our camera oftener at home and set forth in quest of suggestion, stimulus, to say nothing of enjoyment, with only a view-finder. A day spent like this occasionally is fruitful in suggestion, and with mental and written notes made will provide ample material even in a limited and often apparently unpicturesque district. All great landscape artists have been close students of nature, and if it is essential for the painter to know nature well, how much more so is it for the photographer, who, with his limited medium of pictorial expression, ought to know and love nature so well that he will always be careful to interpret her in her best and most inspiriting moods. Constable tells us that it was his associations with nature in boyhood that made him an artist. In speaking of the district now known as the Constable country, and in which he found the material for most of his landscapes, he writes:

"I associate my careless boyhood with all that lies on the banks of the Stour. These scenes made me a painter, and I am grateful. The beauty of the surrounding scenery, its gentle declivities, its luxuriant meadow flats sprinkled with flocks and herds, its well-cultivated uplands, its woods and rivers, with numerous scattered villages and churches, farms and picturesque cottages, all impart to this particular spot an amenity and elegance hardly anywhere else to be found."

Method in pictorial effect is almost if not equally important with motive. If we be not careful we may, through lack of knowledge, carelessness of treatment, or other reasons, introduce some disturbing element which may minimize, if not altogether destroy, the motive of our picture. Of the means at our disposal two most important points in the success of a picture are selection and suppression. Selection of the best point of view and lighting to give justice to the motive inspiring our effort. Of these selection is the easiest, and it is to the photographer what arrangement and composition are to the painter. Too often in our photographic work our subjects select themselves; this, however, is the fault of the photographer. A knowledge of the laws of composition is of essential value in selection. There are accepted laws in the composition of a picture which should be carefully attended to, with a view of placing our principal object to the best advantage for effect. These rules the photographer need not allow to shackle him, but a knowledge of them is essential, otherwise he would be groping in the dark as to what would and would not make a picture. Suppression is a much more difficult quality to obtain, essential though it be; for without suppression he will often have distracting elements which may mar an otherwise excellent picture. How to obtain this is a matter of personal taste; the wise use of the lens, working at the largest aperture possible which will allow the lens to cover the plates sharply to the corners. Focusing on the principal object, even putting the whole picture slightly out of focus is

Negative by Chas. Vandervelde, Grand Rapids, Mich.

THIRD PRIZE.

permissible, so long as form is not destroyed. This is a most important point, many photographers imagining that so long as detail is suppressed form is of little or no moment.

Perhaps the most important means of suppression, however, and one which always lends an additional charm to a picture, is atmospheric effect. It is difficult to analyze and say why atmospheric effect is almost always charming in itself. There is no difficulty in a humid climate such as ours of frequently obtaining the aid of atmospheric effect to give charm and mystery to our pictures. Many unpromising subjects may, under the soft veil which atmospheric effect throws around harsh outlines and obtrusive details, give us pictures well worth waiting for. The charm of atmosphere is little understood by many photographers. They call it fog, and do all in their power to get clear, sparkling pictures. In this respect I recall an observation which I overheard while looking over a recent exhibition. One exhibitor was taking a friend around, who evidently, from his comments, was a skilful photographer so far as technic went. His comments were pointed enough regarding the purely mechanical side of the exhibition, but when his friend asked his opinion of the show, he replied, "It is a very good one, but, man, the pictures are awfu' misty." The beauty of atmospheric effect was quite lost on this individual. In nature atmosphere is always present, sometimes in a greater or lesser degree, but always present. It is this quality which is so invariably absent from the view produced with f-64, or a smaller stop, and which in the early days of landscape photography gave critics an opportunity to deride the idea of our art being capable of producing anything pictorial. We are learning slowly, and as isochromatic plates and a judicious use of the yellow screen become better known and appreciated for the truer rendering of color values, the stigma may be removed altogether. Tone is an important factor in successful pictorial effect. "It is," says Ruskin, "often confounded with what is usually termed 'aërial perspective.' Tone is the exact relief and relation of objects against and to each other in substance and darkness, as they are nearer and more distant, and the perfect relation of the shades of all of them to the chief light of the picture, whether that be sky, water or anything else." It is impossible for our art, or any art, to render the same range of tones as nature. Still it may be questioned if we have many of us yet realized the capabilities of the photographic plate, properly used, in rendering tone or color values. Of the importance of the matter there can be no question.

In a recent number of the *Amateur Photographer* an eminent art critic alludes to the question of values as follows: "There is one matter that should receive the utmost attention in artistic photography, especially as it seems to present extraordinary difficulty through the conditions of production. This is a matter of 'values.' They are very elusive, and though the graphic artist can study them and record them from nature, he often finds it necessary to number them in order to insure correctness. The photographer, developing his negative away from nature, is at a disadvantage in this respect. I therefore venture to offer him a little piece of advice, and with this I will conclude. Let him carefully note his highest light and his deepest shadow, as well as all such intermediate tones as are important, numbering them according to their degrees of intensity. This may be done on a rough sketch, or even by a written memorandum. It will be of the greatest assistance in completing the picture, for the 'values' of nature can never be guessed."

In the application of our methods let us try to forget sometimes that we are using photography to gain a pictorial result. Too often our anxiety to produce a good photograph leads us to forget some points in our picture. By this do not understand me to advocate slipshod methods of working. But is it not the case that too often we allow the conventional idea of what is the correct thing in printing, or texture, or something else, to lead us away from the substance — which is the production of a picture — in quest of the shadow, which after all, is only the means we should employ and subordinate to our own purposes? Let us change the method we have of criticizing and analyzing our pictures to death. Why should we concern ourselves as to the plate, exposure, process, or locality? It is sufficient to produce a picture — never mind the means. If it conveys no message to us, if it tells no story, gives us no pleasure, condemn it or pass by, but leave questions of process and other matters of technic out of consideration altogether. JAMES BURNS.

A WOODLAND GLADE.

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

CHAPTER XIX.

COLLODION.

Collodion is a mixture of alcohol and ether in which is dissolved gun cotton, the addition of which changes it from the most limpid fluid to a glutinous, slow-flowing substance resembling syrup.

In the collodion is introduced a soluble iodide and bromide. In preparing to make a negative or positive image, the collodion is flowed over a carefully cleansed plate of glass and the excess is drained from the plate back into the bottle from which it was poured. The alcohol and ether being very volatile, evaporate quickly, leaving a coating like a heavy varnish upon the plate. The plate is now immersed, by means of a forked rod upon which it is placed, into a solution of nitrate of silver, held in a bath vessel especially constructed for the purpose, and immediately the silver in solution is attracted to the iodide and bromide in the collodion film, changing the latter from a colorless condition to a cream white, which is the sensitive principle, bromo-iodide of silver. This preparation must be made in a darkened room, else the light would destroy the sensitiveness of the film upon the plate. After the exposure of the plate in the camera on the sitter, it is returned to the darkroom and developed by flooding it with a solution of sulphate of iron. It is an interesting part of the process to watch the image rise from the film from apparent nothingness to the reality of a truthful likeness of a person.

The ambrotype came as the first product of collodion in photography. It was a departure from, yet resembling the daguerreotype, being a case picture, taken upon glass instead of the silver surface plate. The mirror-like surface of the polished daguerreotype plate was abolished in the ambrotype and the image more readily seen, a pleasant change and welcome improvement.

Mr. S. D. Humphrey, of Canandaigua, New York, started a journal of photography, calling it *Humphrey's Journal*. To be able to hurl it with greater impetus from a central point, he went to New York city for his publication office and headquarters. I subscribed for *Humphrey's Journal* and continued a subscriber as long as it lasted — several years. There was another magazine, under the title of *Photographic and Fine Art Journal*, by H. H. Snelling, also of New York city. To this I also subscribed and continued during its life of several years.

From these journals I read of collodion and the advantages which would result from its introduction. I opened correspondence with Mr. Humphrey, with reference to introducing the ambrotype in Cleveland, and asked for the address of a competent instructor. He offered to come himself, provided I could secure him a class that would justify it. I quickly had a class of ten, at $100 each, of photographers from surrounding towns and cities who were anxious to be instructed.

We wanted to drink from the fountain head and were satisfied; from Mr. Humphrey we got the sparkle and foam as well as the real body. He gave us careful instructions and a fine start.

I desired to hold Cleveland exclusive to myself for as long a time as I could in the new picture, and was rewarded with a fine business by holding the control.

The ambrotype was a very popular picture. While inferior to the daguerreotype, in fact it was something new, took a smart run and practically extinguished the daguerreotype. To stop the transparency of the glass and give solidity to the collodion image, it was necessary to coat the glass with asphaltum — black varnish — which in time would crack and flake off the glass.

A remedy for this and a shorter cut to the work was the introduction of the so-called tintype, which, in turn, superseded the picture upon glass and has shown wonderful vitality. Pleasure resorts without them would seem a hollow mockery. In both styles, the daguerreotype and ambrotype, a separate sitting was required for every picture made.

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*Copyright, 1901, by James F. Ryder.

The next step in progress was to produce the negative image, from which could be multiplied prints to any extent upon especially prepared paper. While the negative print was produced with collodion upon a glass plate, the method was varied; the image was made to obstruct the light from passing through. It was to be seen and judged of by transmitted instead of reflected light.

The production of the negative is a much more difficult process, requiring more certain skill, bringing more routine processes and dividing or classifying the work into departments and requiring additional persons to be employed in the production of a photographic print.

The negative required at least six handlings before being ready for printing, and the paper from start to finish required through the different stages of process and handling, fifteen manipulations. This added handling necessitated the employment of more dishes, trays, bottles, more room in which to work and more people. It will be seen the advance to progress was attended with expense and imposed study and work to master the new methods, some of which seemed crooked, capricious and difficult.

" 'Tis said the course of true love does not run smooth," the whims of a balky horse are unaccountable, the freaks of chemicals are mysterious; the " disagreements " between a new batch of collodion and an untried silver bath are worthy subjects for a divorce court. The hand which can smooth them to a condition of harmony often scratches the roof of a puzzled brain and strokes a non-committal beard many a time and oft. It may be a running fight between them for days, when at length a morning may dawn upon the discord, and with joined hands they move along harmoniously together without the photographer knowing which has been to blame.

Now for a time I return to Elyria to inaugurate the ambrotype and teach my " understudy " the mysteries of collodion. Elyria seemed more my home. To get back there among my old friends was very enjoyable. Park welcomed me back right heartily. His progress during my absence had been most satisfactory. I was quite surprised at the skill he had developed in so short a time.

My few months in Cleveland had brightened me, as was evident to us both. Park was anxious to transfer some of my Cleveland " shine " to himself, and together we coveted the greater polish of New York, for to us that city was the vortex of supremacy in picture achievements.

CALENDAR OF SESSIONS
OF THE
ILLINOIS COLLEGE OF PHOTOGRAPHY, EFFINGHAM, ILL., FOR 1902 AND 1903.

The fall terms of the Illinois College of Photography commence the first Tuesday in September, and the winter terms the first Tuesday in January.

At these dates we urge as many to enroll as possible. However, new classes are formed on the first and fifteenth of each month, so that students may enroll at any time.

OUR TERMS.

One month course	$ 50
Three months' course	100
Six months' course	125
Nine months' course	150
One year's course	150
Two years' course	200

One month course, which is similar to a post-graduate course, is for professional photographers or those who have had considerable experience, whose time is limited. $10 will be charged for each additional week.

Three months' course is for students who have had experience and wish a rapid course of study.

Six months' course is a popular course.

Nine months' course is for students wishing to take a thorough training in all branches of studio work, and after taking the regular six months' term, to have three months for special work, review and practice. Students taking this course are urged to enroll with the fall September term.

One year course — college year of nine months. Term commences in September and ends in June.

The two years' course — scientific course — in preparation for coming year, includes with the regular one-year course, photolithography, half-tone, newspaper illustration, zinc etching, X-ray, astronomical, astro-physical and photo-micrography.

The two years' course entitles the student to a life scholarship in the college.

These prices go into effect September 1, 1902.

CENTURY CAMERA COMPANY.

ROCHESTER, N. Y., June 21, 1902.
THE PHOTO-BEACON, *Chicago, Ill.:*

GENTLEMEN,—We are arranging to publish a beautiful album containing photographs made with the Century camera.

We desire to include nothing but pictures made by Century amateur photographers, as we wish to eliminate all doubt that a professional has been engaged to make our sample pictures.

Believing that users of the Century cameras will be glad of an opportunity to have their work published, we ask that you announce in your columns that we will send copy of our album free of charge to each amateur who will grant us the temporary loan of ten good negatives made with the Century camera.

We will guarantee to return all negatives in as good condition as when received, and we will also furnish gratis a reasonable number of prints in the event they are desired.

Trusting you will feel disposed to give this space in your next issue, we remain, Very truly yours,

CENTURY CAMERA COMPANY,
G. E. MOSHER, Secretary.

[A word of explanation may lend additional interest to the above letter. Seven or eight years ago the writer had an unfortunate accident which developed a very serious nervous ailment, and for two years he lay helpless in a room from which every ray of light was barred and with his ears plugged with cotton, so as to prevent the least sound reaching him. Occasionally his wife would slip into the room and stay with him, at the most for a few moments, to see how he was and then slip out. During all this weary time his sole occupation consisted in conjuring up the past, and of him it might truly be said, "My mind to me a kingdom is."— ED.]

BAUSCH & LOMB OPTICAL COMPANY.

Last month we had the pleasure of announcing to our readers the inauguration of a photographic prize competition in which awards to the amount of $3,000 were offered by the Bausch & Lomb Optical Company, Rochester, New York, for pictures made with their lenses and shutters. We would add in further explanation of this announcement that the competition is designed more especially to bring together as large a selection as possible of the highest grade of modern photographic work. By high-grade is meant highest quality of work of which the various grades of lenses are capable. The competition provides for classes in which the work of every kind of lens from the simplest single achromatic to the most complex anastigmat can be entered, and subdivides these classes into groups which will give every photographer an opportunity to enter work in which he has specialized, such as landscape, portraiture, genre, instantaneous, architecture, telephoto, etc.

A booklet has been prepared giving the various classes and classifications, together with a list of awards. Copy will be sent free to all interested.

BUSINESS CHANGE.

Charles W. Trembley, for eighteen years business manager with the late La Fayette W. Seavey, announces that he has now associated himself with Rough & Caldwell, 122 West Twenty-ninth street, New York.

IN reply to your notice in regard to my subscription running out with the July number, I most cheerfully renew my subscription, and after four years' reading of different journals I have dropped them all, as I have found yours answers every purpose that an amateur could wish for. H. J. MYERS.

"THE WAY TO LOOK AT THINGS."

It always arouses in me a feeling of pity to see a man of great natural ability (which all men have if they will but trust themselves more) sit down before some obstacle or seeming obstacle and whimper at their hard fate. Just as if the world and her people were to blame for a man's unhappiness; just as if the worldful of people had nothing else to do but create unhappiness for this "one and only" man.

It is a great display of ignorance when a man kicks at his hard luck, finds fault with his surroundings, complains of the treatment he receives from other men, or speaks of the world or the age as "going down hill." It is not only ignorance, but untruth.

The hard luck is all of the man's own making. He thinks, believes, speaks of, acts out, expects — hard luck. Then how can he get anything else? Does he look for anything? What a man seeks he finds — every time.

He finds fault with his surroundings because, as is very true to nature, the unripe, unpleasant part appears first, and the man is too stupid or too lazy to wait for or seek the ripe — the pleasant part. He is like a person who, having never known an apple, sees an unripe one first, and having found it decidedly unpleasant, immediately decides that apples are N. G. and so seeks no more. He, naturally, kicks at the unripeness (unpleasantness), and also, naturally, "cries down" the whole apple creation. The same can be applied to the man and his surroundings. He will not wait for the good to appear. He will not go manfully in search of the good. He will not become determined to find, to see the good, and that alone.

Perhaps, like Mr. R. G. P., he knows full well what is good, but is weak enough to allow other people more ignorant than he, to keep him from his full enjoyment of the good. He evidently has not had his fill of the unripe, or he would look over it and see the better kind. He has to become nauseated with the unripe before he will refuse to take more of it. He has eaten just enough of the unripe to make him dyspeptic, so that to him the whole world appears diseased. Being diseased, he sees disease flying about everywhere. After a

Negative by Gus Horlin, Chicago.

SECOND PRIZE.

time he conceives the diseased idea that he is superior to his fellows, to his environment, to the world even; and he rather enjoys the distinction of being miserable and unfortunate. Then does he grow wise and prophetic and remark "that all creation" is degenerating.

How can such talk arouse other than pity for such weakness and such ignorance! Are the hard knocks of such importance that he should spend all his strength kicking against them? Are surroundings, environment, so intellectually superior to man, as to make it impossible for man to rise to their height, master them and go on higher? Are the fellows who sneer, jeer and curse of more importance to man than his own happiness, his own progress, his own life? Need the degeneration of *all* the world deter *one soul* from seeking and possessing all knowledge, all beauty, all life?

How is it in a school? Do we go higher before we have learned our lesson, before we have come into possession of enough knowledge to enable us to obtain more?

Life is a school, the world is the schoolroom; the experiences we have, the environment we are in, the people we meet — all contain the lessons we must learn, all hold the knowledge we must possess before we are ready to go on to a higher class. If we kick at our lesson, we make it so much the more unpleasant to learn. If we shirk the learning, we delay the time when we shall go on to the higher place. In order to do better work, we must prepare ourselves by doing the work that is yet before us.

As an illustration, take this photographic work which so interests "we uns" of The Photo-Beacon. If we want to take pictures, we have to learn how to do the work. If we desire to take better pictures, we must possess more knowledge. But can we do the best picturework before we have done the poorest? With more knowledge come less mistakes, less failures, less unhappiness. With more knowledge come less work and more play, and the world appears more beautiful and the people less unsatisfactory. With more knowledge comes justice. Then, do we see that each man has a right to live his own life, that it is unjust to deprive him of the fruits of his own life. Though they (the fruits) seem bitter to us, yet man needs them or he would not have them.

Take photography and environment. If environment yields nothing beyond its surface, one more amateur sickens and dies and an ordinary sort of chap fills the space. If you seek below the surface, you can dig deeper and deeper, and find more gold with each digging. Should you strike bottom, you may be sure the time has arrived to go on to the next county, where will be found a richer yield.

Take photography and the treatment of other men. Do they laugh or sneer at you? Depend upon it, you have obtained a happiness they are too lazy to secure, but that they yet desire to possess. Go on and leave these people upon the level from which they fear to step. You can arouse them from their deadness in no other way than by showing them your continued success.

Take photography and the world. If the world and the people are in danger of degeneration or annihilation, then is there great need of men with the strength and courage to push the good to the front. There is too much unripeness, too much ignorance, too much unhappiness, to allow of another man joining their ranks. About face and seek for and see only good.

Where does photography come in here? It drills a man in the knowledge and power of the beautiful, which surely is "good." It arouses effort, energy, desire, ambition. It arouses continued faith in his own ability to do and to have. Is this "good?"

It gives him an ever-stronger desire to seek for the highest. The world always yields the highest to the earnest seeker. H. Florence Oliver.

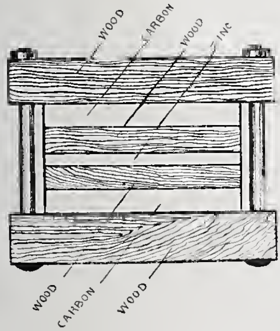
Note the very low rate to Buffalo convention by the Wabash Railroad. See advertisement for particulars.

A DARKROOM ELECTRIC LAMP.

In March of this year I determined to light my darkroom by means of an electric lamp, and set about the construction of a four-cell battery for this purpose. This, after nearly four months' use, has proved so convenient and satisfactory that I wish to give the other readers of The Photo-Beacon the benefit of my experience.

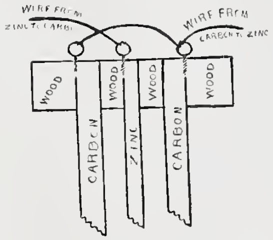
I decided to use the zinc-carbon form of battery, using tumblers measuring 2⅝ inches upper inside diameter and 3 inches deep; 2 by 4 inches was settled upon as the size of the carbon and zinc plates, and as they could not be found ready cut at a reasonable price, I bought a sheet of carbon 12 by 12 by ¼ inches and cut it into pieces 2 by 4 inches with an ordinary hacksaw, placing the carbon sheet over two boards and allowing the saw to work in the opening. I also bought a piece of zinc 12 by 12 by ⅛ inches, cutting it up into pieces 2 by 4 inches with the same saw, but in this case holding the sheet of zinc firmly in a vise. Eight pieces of pine 2¾ by ½ by ½ inches, for the outside pieces of each unit, were then prepared, to be used to bind the carbon and zinc plates together, and eight other pieces 2 by ½ by ¼ inches to be used to separate the two carbons from the zinc. I also bought eight iron bolts ⅛ by 2 inches, and a dozen small brass screw eyes.

FIG 1



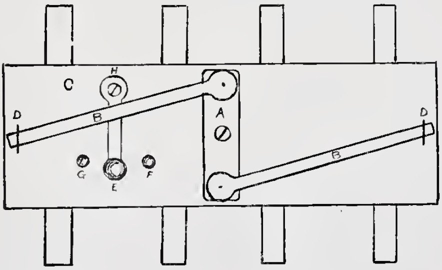
I now dipped one end of eight of the carbon plates to a depth of one inch in a bath of melted paraffin. The paraffin fills the pores of the carbon and prevents the connections being eaten away by the battery fluid. Using these eight carbon plates and four of the zinc plates, they were put together in four sets or units as shown in Figs. 1 and 2, the paraffined ends of the carbons being placed uppermost and care being taken that the plates were all parallel after being firmly bolted together. A brass screw eye was then inserted into the wood alongside of each plate, placing the two touching the carbons near the center and the one in contact with the zinc near one end. A copper wire was then used to connect the two screw eyes against the carbons, the wire and the brass screw eyes being scraped bright to insure good contact.

FIG. 2.



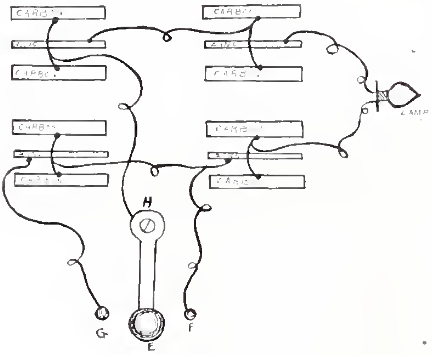
Each of the units was now fitted into a tumbler, and whenever projecting corners of a carbon plate prevented its touching the bottom, those corners were trimmed off with a knife until it fitted snugly. I constructed a box 6½ by 9½ inches and 9 inches deep in which to house the cells, and then hit upon the following device for raising and lowering the plates so as to prevent waste

FIG. 3.



when not in use. In Fig. 3, C is a piece of ½-inch board about 3 inches wide and 9½ inches long to which the four units are fastened by means of the wooden strips running at right angles to it, each unit being held rigidly to two of the cross-pieces by means of wires around the iron bolts. This board, with the four units attached, slides up and down in the center of the box, guided by narrow strips of wood nailed on the inside of the ends of the box. A is a piece of ½-inch stuff 3 inches long, fastened to the board loosely by a screw through its center. B B wooden pieces fastened to A by screws so as to move freely, and rounded at the other end to pass snugly though the large screw-eyes D D. It is evident that when the upper end of A is moved to the left, ends of pieces B B will be projected beyond the ends of the board, and, with suitable holes cut in the ends of the box at the proper height the plates can be raised and lowered even in the dark, by the sense of touch alone.

FIG. 4.



To me, the strength of the current which the battery would give was at first problematical. I connected it up in "series"— carbon to zinc and zinc to carbon — bought a 5½-volt lamp for 30 cents, charged the cells, connected up the lamp and lowered the plates into the fluid. *The lamp burned just two minutes.* I thought 15 cents per minute would be pretty expensive for even an arc light. I soon learned that each cell of this kind, when freshly charged, is capable of developing a current of approximately two volts. My 8-volt current had burned out my lamp. Had I used but three of the cells, I would have been all right. I therefore set to work to connect up the cells in such a way that I might use the current from three of the cells or from all four. I bought a 2-way switch for 12 cents and, removing it from the circular wooden block on which it was mounted, I mounted it on the board E F G H, Fig. 3, and then connected up the cells as shown in Fig. 4. It is evident that when key E is thrown to the right to F, there will be three cells on the lamp circuit; when thrown to the left to G, four; and when it is midway between the two, the circuit is broken.

For my lamp box I used a small box given me by my grocer, fixing grooves in which the orange and ruby glass slide. The lamp was fastened to the underside of the top of the box so as to screen the eyes from the direct rays of the light. On the top of the lamp box I placed another circuit-breaking switch so that, using Watkins' development method as given in THE PHOTO-BEACON recently, I time appearance of image and then, instead of bothering with a messy cover for my developing tray, I just "douse the glim" by means of this switch and turn the current on again when I think the calculated time is nearly elapsed. With color-sensitive plates this is a great convenience.

To charge the battery I use a preparation sold in tin cans by the name of "Voltak." It is evidently a sulphuric acid-bichromate compound. A pound, which dissolves very readily in water to make five pints of battery solution, is sold for 20 cents. I noticed the manufacturers of this compound advise the addition of bisulphate of mercury to the battery solution (one ounce to pound of Voltak) to amalgamate and so preserve the zincs. Bisulphate of mercury at 30 cents per quarter-pound adds 7½ cents to the cost of the five pints of solution. In nosing over an old book on electric batteries, I learned that the bichromate solution of a zinc-carbon battery might be revitalized a certain number of times by the addition of a small amount of sulphuric acid. When my battery first showed signs of deterioration, I added water to supply the loss by evaporation, and then to each of the three cells in use I added ½ dram of sulphuric acid, and presto the battery worked as well as when the charge was fresh. I was able to repeat this Brown-Sequard treatment several times with the same result. Those old books sometimes are money-savers. When, however, this treatment failed to create sufficient current, and the light grew dim, I charged the fourth cell with solution, which, while using only three cells, I had left uncharged. This freshly charged cell, together with the three old ones, would cause the lamp to shine as brilliantly as ever.

There is another use to which I am now putting my battery (in this case using all four cells), and that is for flash-light work. The lamp is made by covering the top of a board 4 inches wide by 10 inches long with sheet asbestos. An 8-inch length of heavy, double, insulated copper wire (i. e. two wires insulated from each other and held together by further insulation, such as used for outside electrical connections) is fastened by a staple, A, Fig. 5, to one side of the board, F F, the wire being bent into a loop B just above the point of fastening. Two inches of the insulation is stripped off at D E, and the elasticity given by the loop keeps the bared ends pressed firmly to the surface of the asbestos. In using, scrape the bared ends of the wires D E bright, and having purchased at the electrical supply house some ½-ampere fuse wire, take a piece about 1¼ inches long and wrap either end about the ends of the wires, taking care that the fuse wire crosses from one to the other at the bottom, so that it comes close to the surface of the asbestos. Have the wires separated about ¼ inch and flatten out the fuse wire (by biting between the teeth) at a point in this ¼ inch. About this fuse wire wrap a small wad of negative cotton (gun cotton), which can be bought at your photo supply house for 30 cents per ounce. Connect C to one pole of battery and G to the other, using flexible wire, which can be bought doubled at 5 cents per yard. Open switch, lower the four cells into battery fluid, spread powder in a train along the asbestos, seeing that it covers the fuse wire, open your shutter and close the switch. This beats buying flash lamps at $1.25 each — lamps which will hold but a teaspoonful of powder.

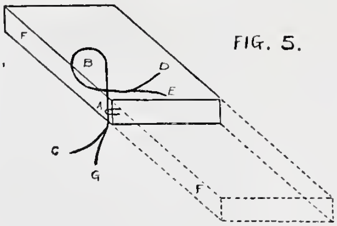


FIG. 5.

When the cells are all freshly charged enough current is furnished to operate two of these lamps, in which case the length of the fuse wire between D and E should be shortened a trifle, and there should be a separate circuit from the battery to each lamp, both controlled by the same switch; if in the same circuit, one charge might be set off and the current thus interrupted before the other charge was ignited. If the gun cotton is not used, the spark created is not large enough invariably to set off the flash powder; using the gun cotton, there is no difficulty on this score.

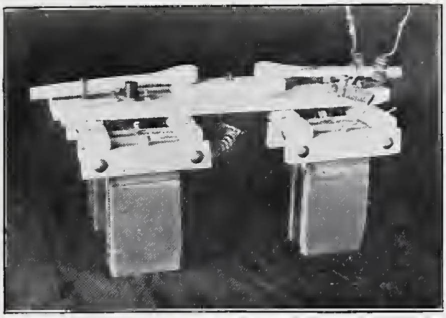


FIG. 6.

This shows the units of the battery all connected up.

I see no reason why two lamps constructed like this can not be put in any incandescent electric light circuit, using for the purpose of connecting with the lamp socket the ordinary attachment plug used for drop lights. With ½-ampere fuse wire there should be no danger of blowing out the fusible plug. This would certainly be a great convenience to any one wishing to take flash-light pictures in a house provided with incandescent electric lights.

Printed on mat paper.

I am at work on still another scheme for using my battery. I have always had a notion that I would like to attempt to color-sensitize plates myself by bathing them in one of the numerous dyes advocated for that purpose. Drying them after bathing, however, had its terrors. I am now at work on a drying box through which a gentle current of air will be sent by a small fan motor. This will prove useful, also, in backing plates.

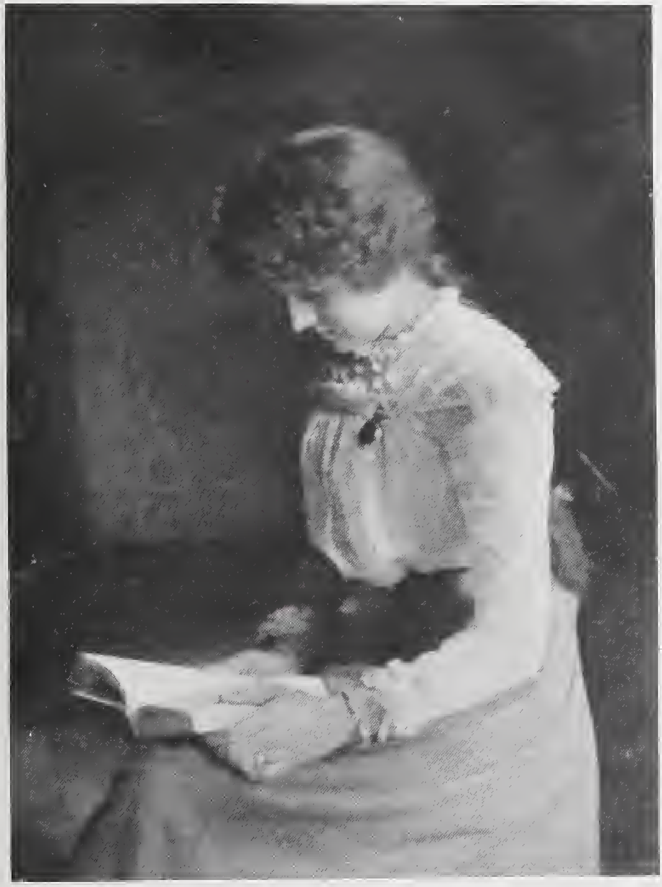
The material actually used in the construction cost as follows:

8 carbon plates	$ .32
4 zinc plates	.13
8 bolts	.05
12 screw eyes	.04
4 tumblers	.20
2 switches	.24
2 binding posts	.08
Lamp, with base	.38
Wire to lamp and for connecting elements	.15
	$1.59

E. G. STOCKERT.

ON CHOICE OF PRINTING PROCESS.

Too many amateurs do not realize how much of the beauty of their work is dependent on the printing process selected, and to illustrate this point two prints are made from the same negative, one on mat paper, the other on glossy, and half-tones made from them. The reproductions tell a very interesting story to those who can read it. In the glossy print detail and contrast abound, while in the mat print detail is suppressed, being more suggested than expressed, while there is a finer feeling of tone. The best printing process, it is evident, is the one that secures the desired effect.



Printed on glossy paper.

The Boflay Camera & Chemical Company, of Newark, New Jersey, is putting out, if possible, a better article than ever. The Boflay solutions are for automatically developing and fixing plates, films and papers, and so perfect is the work of this wonderful fluid that developing done by a mere child can not be distinguished from the most skilled veteran work by the old process. Boflay is to be pushed extensively in this and other countries by Mr. Edward W. Newcomb, who has the general sales agency as well as the publicity department in his hands now. He will send a sample bottle to all for 15 cents and a full size one for 50 cents, postpaid.

PANORAMIC PHOTOGRAPHY.

CHAPTER II.

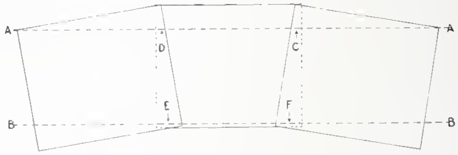
There are several points about the making of the negatives which should have been mentioned under that heading, but as it would be necessary to repeat, they were omitted. The reader will find that by reading the printing instructions carefully, much of the detail concerning the negatives will be made clearer.

As soon as the negatives are ready for printing, they must be marked so that the paper may be placed on each section in just the right place to make the joint match. Many printers do not exercise care enough in doing this, and experience considerable trouble. There are many ways of doing it, but the most accurate, as well as simple, method which I have found will be described.

Take a large piece of clean glass and lay it on two boxes or other supports, say twelve inches or more above the table, keeping the supports at either end. Lay the middle section of the set of negatives in the middle of this glass and lay the end sections on top of it, keeping them level by placing cardboard or something of the kind under the outer edges. The film side must be up. Now take a candle or any convenient light (I have often used matches), and hold it under the glass just below the negatives. This will enable you to see when the detail of the two negatives, which is just the same at the joining point, exactly overlap. It is well to cover the head with a cloth to enable one to see the detail on both negatives plainly. When one end is placed in the right position, place a weight on it to keep it in place. Then place the other end in position in the same manner. The following sketch will give a good idea of how the negatives are laid out.

The angles are exaggerated, but this is done to better illustrate the way the plate will appear. The longer the focus of the lens used, the less will be the angle. When very long focus lenses are employed, the negatives will lie almost in a straight line; while with short focus work the negatives will often appear as much out of line as in the sketch.

Lay a straightedge of any kind across the negative, keeping it at the upper corner of the two outside plates, and with the point of a knife, or any such tool, scratch a line across the set of negatives, the same as the dotted line marked AA. The distance between this line and the one marked BB will be the width of the print. The line AA will be the guide for placing the paper on the negatives, in the printing-frame.



Now remove the end plates and on the middle section, at the points marked C and D, which will be about in the middle of the lap, make a scratch in the film, keeping above the line AA, which should be continued to the edges of the plate when the end sections are removed. On the line BB make scratches in the same manner at points marked E and F, keeping below the line. When these points are marked, replace the end plates exactly as they were when first matched and directly over the scratches in the middle plate scratch one in each of the end sections. Care in registering the negatives is about the whole secret of properly matching the printing.

The printing-frame for panoramic work manufactured by George Mellen, Times building, Chicago, is the best for this work and, as it is low in price, should be a part of every outfit. It is arranged with sliding pieces for vignetting on the front, and has hinged boxes at either end for holding the loose ends of paper, to protect them from light while printing. If the worker wishes to arrange a frame, it may be done by using a printing-frame one size larger than the plates used and fitting a piece of plain glass snugly in the opening. Round off the ends of the hinged back, so that the loose ends of the paper may be drawn through without creasing it. Make two thin pieces of wood, beveled on one edge, that may be fastened across either end of the frame, and provide a box of pasteboard or any opaque material that may be fitted snugly over the back of the frame, to protect the loose ends of paper from light while printing.

The joining of the sections in printing is done by vignetting. It is the only practical method of doing it without showing either a dark or white line. Place one end negative in the frame and lay one end of the paper on it, keeping the top edge exactly to the line marked AA. Now, at the scratch mark C or D (depending on which end is used first) make a pencil mark on the back of the paper. Place the back in position and clamp it with the spring. Put the beveled piece of wood or a piece of cardboard across the end of the frame on the face, so that it will come just over the points DE or CF, keeping slightly inside of the points. This strip acts as the vignetter and should be raised far enough from the face of the frame so that the shading of the image will be at least half an inch from the point where the paper is fully printed to where it dies away to white. Now cover the frame with tissue paper; place the box over the back to protect the ends of the paper and make the print.

When this section is printed, remove the paper and plate and put in the next negative. Place the paper along the line AA and the pencil mark on the back of the paper at the scratch mark which corresponds to the one on the last negative used. If it is the middle negative of a set, another pencil mark will have to be made at the scratch mark on the other end of the plate, so that the paper may be registered to the third plate later on. Arrange both vignetters for printing the middle section, and print as with the first negative.

The printing of the second and following sections should be watched carefully, so that if it is necessary to change the vignetter to make the blending perfect, it may be done before the printing has been carried too far. At this stage the reasons for allowing ¾ of an inch at the end of each negative when focusing the camera will be plainly seen. With a set of plates which are worked too close to the end, it will be found very difficult to make a good blending, as there will be no room on the negative to do it.

The foregoing is the manner of printing on printing-out paper. For developing papers the method is just the same, except that the exposing time must be figured out. The slow or carbon grades of paper are not as good for this work as the fast or portrait emulsions. Of course, the carbon may be used, but my experience is that the soft papers are more easily handled.

If all the plates would give the same print with the same exposure, we could go ahead just the same as with a sunlight paper, but no set of negatives I ever saw would do it. To get the same results, proceed as follows: Mix up enough developer to do the work without changing, and dilute it with enough water so that development will take fully one minute. Take pieces of the paper to be used and make exposures from each of the plates. Time the prints from each plate until each is developed to the required density, in say just one minute. Mark each plate with the time of exposure necessary to give this result. By getting the printing time of each plate in this manner, the paper will develop out as though one plate only were used. I remember printing from one set of three negatives, which required 2, 7 and 22 seconds exposure, but the development took the same length of time for each, and the whole print was uniform through its entire length.

There is much more which could be said about panoramic photography, but too much detail is confusing. The principle is simple and easily understood, and should be well thought over before commencing work. To handle the details skilfully requires some practice, but with care the work is very simple.

There is an immense amount of satisfaction in practicing something a little out of the ordinary, and the worker who can produce good panoramic work will congratulate himself many times that he "took it up." LOUIS H. HOYT.

The Photo-Beacon Exposure Tables are guaranteed correct. Price 25 cents.

THE DEVELOPER AND ITS CONSTITUENTS.*

CHAPTER V.

RESTRAINERS AND FIXING SALTS.

We shall have completed the survey of the ordinary constituents of a developer after consideration of a few minor chemicals which are used in some formulæ, either as substitutes of others or for some particular purpose.

Let us consider, for instance, a pyro developer. It will be noticed that in many formulæ the sodium sulphite is frequently dispensed with, in what is called the A or pyro stock solution, and mixed instead with the alkaline or B solution. But a solution of pyro in water would not keep any length of time. Provision has to be made to preserve it, and this end is attained by the addition to the water in which the pyro is dissolved of some acid or, better, of some substances like potassium or sodium metabisulphite. Nitric acid, sulphuric acid, citric acid, oxalic acid, are generally used for that purpose. It is very important that these acids be chemically pure and also that the quantities given in the formula be strictly adhered to. When employing these acid solutions, it must be remembered that a certain amount of alkali is neutralized thereby, for which allowance is made in the formula. Any further increase of acid would therefore weaken the developer and impair its efficiency. There is little choice between these acids except that for keeping qualities oxalic acid seems to be slightly in the lead, citric acid being the least efficient of all. Besides when using citric acid a citrate of potassium or sodium is formed upon mixing the two solutions, which salt acts as a powerful restrainer. Nitric acid, on the other hand, while imparting a fine color to the silver deposit, acts to a slight extent as a solvent of the same silver deposit. All told, the use of these acids should be altogether avoided, as they can be replaced with the greatest advantage and with none of their inconveniences, by metabisulphite of potash. This salt, provided it be of good quality, is the best preserver there is of pyrogallic acid in solution. When not at hand, the following might be substituted: Add to the water, in which the pyro is to be dissolved, 1 minim sulphuric acid plus 5 grains of sodium sulphite for each grain of metabisulphite prescribed in the formula. If that solution be very concentrated, it will require of potassium metabisulphite but one-tenth of the weight of the pyrogallic acid to make up stock solution which will last nearly a year without losing in efficiency and developing power. If the developer is to be kept in a dilute state, it is advisable to double the amount of the salt, that is, to use one-fifth of the weight of the pyrogallic acid. When using this salt, which is an acid salt, it must, however, not be forgotten that a certain amount of alkali will be neutralized by it and an allowance made accordingly.

1 part (in weight) of metabisulphite of potash will require for neutralization:

0.36 parts sodium hydrate (caustic soda).

0.5 parts potassium hydrate (caustic potash).

0.96 parts sodium carbonate, dry (C. P.).

1.2 parts potassium carbonate (C. P.).

Potassium metabisulphite can be used with nearly all developers, but it does not, with most of them, offer the same indisputable advantage as with pyro. In fact, with many, sodium sulphite is by far the simplest, most advantageous and safest preserver to employ. For completeness' sake here is (after F. Dillaye) the corresponding amounts of the sulphite and metabisulphite salts:

Sodium Sulphite.		Metabisulphite.	
Crystals.	Dry.	Of Sodium.	Of Potassium.
1	0.5	0.412	0.476
2	1	0.825	0.952
2.425	1.213	1	1.153
2.10	1.05	0.867	1

But a few words need be said of such bodies as are only indirectly connected with development, such for instance as are employed to make up the fixing bath, and if we mention them at all it is merely to caution the reader to be very careful in purchasing them. Some of these goods, as obtained in certain photographic supply houses, are simply worse than useless. A case in point is chrome alum, which ought to appear in translucent, clean-looking, dark purple crystals without any yellow, powdery deposit. It has been the experience of the writer to purchase chrome alum that was entirely transformed into a yellow, sandy mass without even a nucleus of the original crystal left, and this in photo supply stores that make a pretense at selling the best, and cater to the best class of amateurs and professionals. Here, as with sodium sulphite, the moral is obvious, buy in glass bottles from a reliable firm and direct from chemical firms whenever possible. The reader is strongly advised also to be very careful in purchasing acids. While for some purposes like cleaning developing trays, bottles, etc., any cheap commercial hydrochloric acid for instance will be all that is needed; for chemical operations, on the contrary, only C. P. (chemically pure) acid will be satisfactory, productive of good results and, we may add, by far the cheapest in the end. It is to be noted, however, and much regretted, that many photo supply houses sell (let us hope through ignorance) so-called chemically pure acids that are not such by any means. Every label ought to bear the mark C. P. or the words chemically pure, either abbreviated or in full. It must be remembered, besides, that C. P. sulphuric, nitric, hydrochloric and acetic acids are as white as distilled water. The impure products are more or less colored. Oxalic and citric acids are found in the form of beautiful white crystals. Hyposulphite of soda comes to us in different states and is sold as "large crystals," "pea crystals," "granular" and sometimes "dry powder." We advise the purchase of "granular" or "pea crystals." No particular stress need be laid on the impurities, mostly of the alkaline nature, that are liable to be found in it, as they are not ordinarily liable to injure the negative in any respect. Account must be kept, however, in weighing out the hypo, of the amount of water of crystallization present according to the kind employed. But the best way to avoid any calculation, weighing or hydrometer tests is to keep it in the form of a saturated solution, as we shall see later on in the chapter on solutions.

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* Copyright, 1902, by F. Dundas Todd.

A. K. Boursault.

THE NATIONAL CONVENTION.

To the Editor:

Please insert these hotel rates to the ones sent you last week. Also insert somewhere the notice that follows.

C. R. Reeves,
Secretary P. A. of A.

Tremont Hotel — $1.50 and up, American plan; 50 cents and up, European plan.

The Rienzi Hotel — European plan, 50 cents to $1.50.

HOW TO BECOME A MEMBER OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

Proprietors of studios are required to pay an initiation fee of $3 and dues of $2 a year.

Employed help pay only the dues of $2.

Send the proper amount to the treasurer, F. R. Barrows, 1873 Dorchester avenue, Boston, Massachusetts, who will receipt you, and add your name to the list of members. You can join at the convention, but it is better to attend to it before, as you will have to wait your turn at the door if you do not have your receipt ready to admit you. When you are once a member, keep up your dues.

SAMPLE PACKAGE.

In this month's advertisement, Mr. Edward W. Newcomb offers a trial package of his celebrated Photo Preparations, containing 75 cents' worth of his various goods at 50 cents only. This will afford our readers an opportunity to test these guaranteed goods and see for themselves that every claim made for them is fully substantiated. The proof of the pudding is within the reach of all now, and Mr. Newcomb expresses the hope that all who photograph will accept this generous offer and become aware of the mighty difference they make in one's every-day work. This package is sold "Money back if you want it." Who could resist so fair an offer. See advertisement.

THE CLEVELAND CAMERA CLUB.

The Cleveland Camera Club was organized on June 5 at a meeting of photographers held at Case Library.

The club was originated for the advancement of artistic photography, and makes no distinction between professional and amateur workers.

In issuing invitations to join the organization, the promoters endeavored to ask only those who held the interests of the art at heart.

It is the intention of the club to hold two meetings monthly, at one of which a discussion of some artistic or scientific phase of the question photographic will be discussed. At the other will be held a members' print exhibit under the control of a print committee. It is anticipated that the friendly criticism that these monthly exhibits will bring forth will be of inestimable value to the members and will encourage new workers and make for that growth and development so necessary to advancement in the art.

At present the club has forty active and two honorary members.

The officers are George M. Edmondson, president; Dr. A. H. Marvin, vice-president; William T. Highbee, treasurer, and A. C. Bates, secretary.

In the fall, commodious clubrooms will be engaged and properly furnished for the use of the members. Until such time as the club is permanently located in its own rooms, communications should be addressed to A. C. Bates, secretary, 309 Garfield building, Cleveland, Ohio.

EDITORIAL TABLE.

BURKE & JAMES, 118 West Jackson boulevard, Chicago, have just issued their catalogue for 1902, which is devoted very largely to description of the specialties manufactured by them and so well known under the title of "Ideal" and "Ingento." In new things we find the Isochrom Color Screen and Safe Light, especially designed for use with Cramer's isochromatic plates, which are simply perfection for the purpose intended; the R. James Wallace Spectro Sensitometer, which is already known to our readers; "Vivid" flash-light powder and cartridges; the "Diamond" spotting colors; new lines in developers, reducers, intensifiers, toning solutions, besides all the other articles that are to be found in the market in the way of cameras, lenses and apparatus that one ever needs in the practice of photography. Copies will be sent on application to the firm.

THE G. CRAMER DRY PLATE COMPANY, of St. Louis, Missouri, has just issued a very practical little manual devoted to X-ray work, which is written by Dr. Kassabin, of Philadelphia. The firm will be very pleased to send copies on application.

THE CAMERA & DARKROOM COMPANY, New York, has issued a little book entitled "Retouching" for amateurs, the price of which is 10 cents.

THE ROCHESTER OPTICAL & CAMERA COMPANY, Rochester, New York, has just issued a booklet describing the working of the R. O. C. plate manufactured by it. Copies will be sent free on application.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

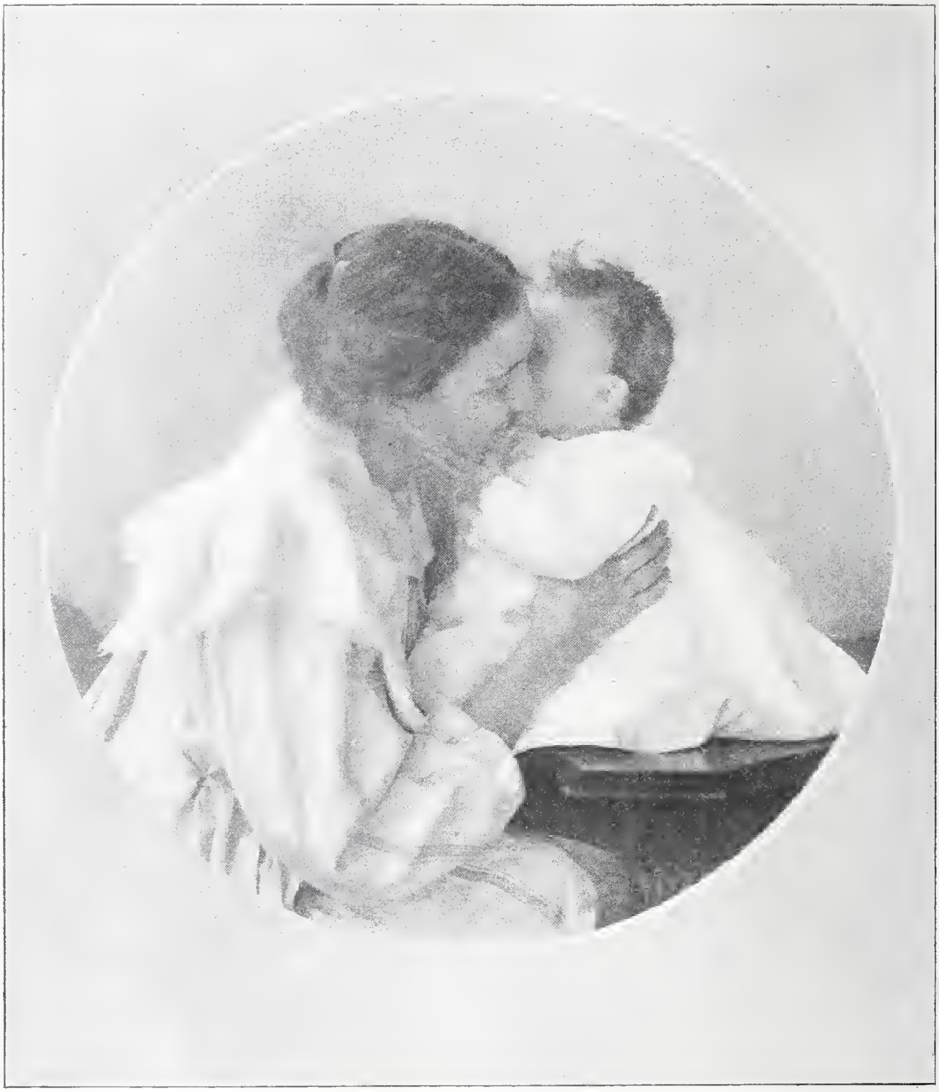
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Negative by Sara W. Holm. Sedalia, Mo.

FIRST PRIZE.

THE PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. SEPTEMBER, 1902. No. 9.

THE NATIONAL CONVENTION.

The Buffalo meeting of the Photographers' Association of America, held early last month, proved to be as popular as any held in the past, and while there was less gaiety provided for the amusement of the members than in former years, this was compensated for by the plenteousness of the practical instruction that was given in art principles. It was something unique in the history of photographic conventions to find no less than the names of three men with a standing in the art world on the program to formulate pictorial principles to professional photographers. It may safely be said that in no other country in the world could such be attempted, and it is, to say the least, amusing that it is in the United States, which is despised artistically by the supposed art-loving Europe, that such an advance has been made. The pity of the event lay in the fact that most of those present possessed so little elementary knowledge that in all likelihood they absorbed little more than an incentive to make a start in a new direction. Only a few years ago such a program would have roused the ire of the members, and the great advance is shown by the fact that the lectures were welcome.

It was dreaded by many that with the withdrawal of the medals there would be a big falling off in the quality and quantity of the pictures hung in the exhibition room. There is, undoubtedly, a big falling away in the quantity, but an impartial observer will have to admit that the quality was better than ever. In Detroit last year the tendency was toward outré effects, the impression apparently being that whatever was odd was bound to be artistic, but sanity would appear to be almost restored, and there were on the walls at Buffalo at least one dozen pictures that I would like very much to have hanging on the walls of my office; a much larger number, by the way, than I would select from the average painters' exhibition. It is evident that the photographers are now putting brains into the problems of composition, light and shade and tone values. There is, as before, an attempt to render the subject naturally at his best, but this best must include a pleasing combination of lines, harmonious massing of light and dark, and judicious blending of the figure with the background. One of the speakers devoted his entire remarks to the question of backgrounds, and he undoubtedly sent away every one of his hearers with something solid to think about in the future, for, unfortunately, the average man does not realize how important is the setting of his creation. The speaker illustrated his points very practically by placing the same sitter against a dozen different backgrounds, and showed how remarkable were the changes in expression as a consequence. He ran a gamut from a dignified gentleman to an unmannered boor, simply by changing the surroundings of the same subject.

The manufacturers' exhibits were, if anything, more interesting than in previous years. The paper men had exhibitions of their newest lines, while the plate men contented themselves by turning their space into very pleasant resting-places for the convenience of the visitors, and it need be scarcely said that they were very largely patronized. Card men were as prolific as usual, in fact, even more so. The camera men exhibited rather notable lines. The Eastman Kodak Company showed the working of their new developing machine, which was, perhaps, the biggest talk-creator of this or any other convention, as it upset nearly all the preconceived ideas of those present. It was rather interesting to note that it was at the Buffalo convention, some twenty years ago, dry plates were first publicly brought to the notice of the photographers of this country, and now Buffalo is again signalized by the introduction of a mechanical device for developing in ordinary daylight. One is curious enough to inquire what photographic new thing will make its debut in the same city twenty years hence. The Rochester Optical Camera Company, by a clever bit of mechanism, demonstrated to the public the wonderful simplicity and accuracy of the changing device in their "Snappa" Magazine Camera, and it is needless to say it was never found without a small crowd studying its movements.

In new devices there was exhibited a new idea in flash lamps, which proved itself a "dead-sure" thing, so far as igniting the powder was concerned, as it never failed once to go off.

All in all the convention at Buffalo was of the first class, but while there was much to profit it seems to me that the executive would not have hurt anybody had they been as liberal in providing for the pleasure as did their predecessors in past years.

F. DUNDAS TODD.

I ENCLOSE another little ad. for next issue of THE PHOTO-BEACON. They do bring results. D. L. SIMMONS.

PICTORIAL COMPETITION No. 51.

The competition for genre subjects is always a very pleasing one, and shows, perhaps, more than any other, the creative faculty and originality of the competitors. The competition this month was up to the usual standard, in fact, in pictorial effects, much better than in previous years. The determination of the prizes proved to be rather a difficult task, and it took the judges more time than usual to come to an agreement as to the order of the principal pictures. At last they made the following awards:

First prize — Sara W. Holm, 617 Ohio street, Sedalia, Missouri.

Second prize — F. R. Lockhart, Toronto Camera Club, Toronto, Canada.

Third prize — Frank E. Marks, 654 Federal street, Camden, New York.

The following are entitled, in the judges' opinion, to special mention:

James Thomson, F. C. Baker, J. B. Watson (2), James E. Taggart (2), E. J. Hoskin, Emma L. Williams, Louis Fleckenstein (2), George M. Crowe (3), J. H. Field (2), Ralph E. Berger, C. C. Davidson, Belle Johnson.

The first prize picture is a very charming study in gray, reveling in the most beautiful gradation from pure white to deep black, and is very winning in its beautiful naturalness.

The second prize picture is a familiar subject to most people, but this is the first time I have seen it rendered by a photographer. The lines of the composition are very good, and the handling of the shadow in the background is very fine, indeed. In the original print the coal bins are simply suggested by a little change in the tone of the shadow, and one feels that the end of the cellar is many yards from the figures in the foreground.

The subject of the third prize picture is a very difficult one, more particularly to secure the suggestion of roundness in the side of the face in shadow, but Mr. Marks succeeded very well.

PARTICULARS OF WINNING PICTURES.

First prize — Printed on W. & C. platinum. No other particulars given.

Second prize — Made by flash-light, on Cramer plate. Printed on Royal bromide.

Third prize — Made on Orthonon plate, stop f-8, exposure twenty seconds. Printed on W. & C. platinum.

FUTURE COMPETITIONS.

Competition No. 53 — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.
2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.
3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

Those of our readers who desire a flash lamp which will produce a broad, wide-spread flame of high illuminating power, should inspect the "Brouse" lamp recently placed on the market by G. Gennert, 24 and 26 East Thirteenth street, New York, who will cheerfully submit fully illustrated and descriptive pamphlet if readers will mention this journal.

HOLLINGER'S TALK AT THE NATIONAL CONVENTION.

I do not like to take up so much of your time, but I am always glad to speak at the close of the convention. I always like to see the best things come last, if I can. I always like to talk last in any meeting. I have enjoyed this convention very much, but do not expect me to make any speech, for I will not bother you with one. This friend of ours from Boston reminds me of a thing that has been on my mind for some time. I saw it in the Boston *Herald.* There are a good many things said in Boston and this is one of the things that we need to know, because it is part of the philosophy of this new century. It is this, and if we only remember it we can do a great deal with it in our lives — he who thinks he can, can. Do you know that? Limitation has been the trouble with nearly all people especially with photographers — limiting ourselves. Let us remember that he who thinks he can can, and stop limiting ourselves. I have learned a good many things in this convention. Many times I have heard men say such things as this, especially one brother; I told him I would mention his name — Mr. Cole, from a little town down south. He said, speaking of a certain picture, "That was made in a little town." What do you think I said? "Why, the light is just as good in a little town as elsewhere." Made with a poor lens? A man asked me, "What lens do you use?" I said, "I use a poor lens, but I think more." Now, let us say we can do just as good things as anybody ever did do, and we will do them; and that will help us a great deal in doing wonderful things. Let us go home and say we will do better things than we ever did in our lives before. I have made up my mind to do that. I think since I was here last year I have done the best work I have ever done, yet I was less pleased with it than I ever was. The man who helps me most is the man who beats me, and if you do not beat me somewhat, you are not in it. Some day I am going to step out of the way, and when that time comes I am going to be satisfied. I am only in the photograph business, like you are, to get along — to exist and stay here. I have other things I am thinking about; I have to enjoy myself. I am doing that all the time and using this business to get my bread and butter. I want to get it just as easy as I can. If I can give the people the very best thing for the most money, I can do with less work; and that is what we want. [Applause.] So we will not have to work so much, and get more money. Let us watch that. Let us all raise our prices, keep raising them all the time. We are working to do other people good. I have been trying all my life to do other people good — make them happy. If I can make a person a nice picture that pleases them as long as they live, every time they look at it, I am doing them a good turn. Let us try to do the very best we can as long as we can.

I want to say to you again, when you come to New York, you come up and see me, and I will be very glad to see you. I have told you that at other times, and a good many men have come and no one has ever been turned away. I want to have you come in on me, not because of me, but I want to see you and hear what you say — about my work — see how you act. Not that I care so much what you think, but you are a part of the mass, and I adjust myself accordingly. I have had pictures hung in my place and left them there in order to hear what people had to say about them. Some people that did not know would call the pictures splendid; other people would say, "It is very good"; after a while I took the picture out. I got ashamed of the people that liked it and said it was good, while the people that knew said it was not good.

One more thing that came into my mind while I was talking; you are sitting here so nice I want to say to you that we can make ourselves felt in every town just like the man that was here yesterday (Mr. Elbert Hubbard), by making our calling dignified. Sometimes we think we are only little photographers; but we are people. I was down at Dayton, Ohio, a while, and every saloonkeeper in that town knew me; and they would to-day. If you would mention my name, they would know me. I made myself felt in that little town. We can do that wherever we are. Wherever you are, you can make yourself felt. What you do gets appraised according to what you are. Now, I know a little girl in our city of New York that tells people little stories. She just strings them off and they call it romancing. They think it just lovely, because she is a lovely little girl. She is nice herself and everything in her house is pleasing and they call it romancing. I know a boy that no one will have anything to do with, and he can sit down and tell you the greatest lies you ever heard of. They are all lies, and everybody calls him the greatest liar that ever was. They will not have a thing to do with him. He and that girl can do the same thing, but her's is a beautiful little story; they call it romancing — but the boy is a fearful liar. That makes the difference. Both tell stories alike, both of those people could write novels or sketches like Mark Twain, but the boy will not do, as he is a liar, and the other will do because she is a refined lady. Do you know the difference? It is character that makes the difference. Let us make our work so that it will show up according to the manhood of the man back of it and the people will feel it; they will pay me more for a frame than they will some people down in our State, just because I say so. I go to Knox and buy a hat; I am willing to pay him $4 for a hat when I can get something at another place exactly similar, but the hat that Knox sells has his name in it, and I know it is up to date. That is the way people will do with us in photography. Let us make it so that our business will be elevated, so that the little boys and girls will want to learn our business, and it will be an honor to meet us wherever we go, just like I am wherever I go.

Now, I thank you. I did not expect to talk half a minute, but I have enjoyed this first rate. [Applause.]

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER IX.

SPOTTING.

In the foregoing papers on the subject of lighting, all the arrangements under discussion were dark in tone, and the interest was centered on the important place by lighting up that part of the picture, while subduing the light on the more important things. This is very simple and effective, and does very well; but all pictures are not dark, and I should now like to say a word about lighter arrangements; I mean where the picture is flooded with light, and show how the interest may be as simply centered on the important place by the careful use of black.

It will be seen that in a dark picture the eye will follow the light spots; but in a light picture the eye is naturally led to the dark spots.

This sort of treatment is called "spotting." Of course, a dark spot in a light picture is sure to command attention, providing you do not have too many competitive spots. In this, as in everything else, simplicity is the best rule. A good strong accent of this sort in a picture will be very effective if you are careful to keep the rest of the arrangement simple or unaccented.

In other words, if you have other darks in the arrangement, be sure to keep them less important than the one you wish to have command the attention. Otherwise the interest will be sprinkled all over the picture, the several spots vying with each other to command the attention, with the result that the interest is settled on none.

It very often happens that a light picture will only need a single spot, and the composition will be much better if this note is not repeated anywhere in the arrangement.

Some photographers have struggled for this effect by sketching on their plates with what seems to me indifferent success. Not but what the idea is all right. In some portraits I have seen treated in this way, the effect would have been very pleasing had the photographer only known how to sketch. But, as a rule, an artist with the camera has not had the technical training necessary to sketch well, and his lines seem crude and quite out of sympathy with the tender finish of the photograph. However, it seems to me that some very clever things might be done in imitation of the Holbeins published with the first of this series of papers.

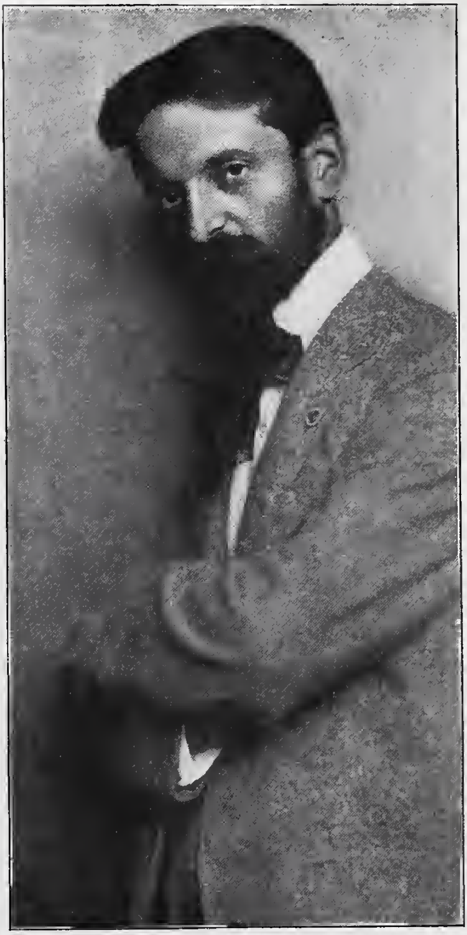


FIG. 22.

I think there are possibilities in the idea, though the man who does the sketching must surely have the training of an artist.

However, this freak treatment is not necessary, for a portrait can be made very effective when treated with a single strong spot for the accent.

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*Copyright, 1902, by F. Dundas Todd.

As an example of this, I publish with this issue a portrait by Mr. E. F. Hall, of Buffalo. It will be noticed in passing that it is a rather clever bit of spacing. The head is carried well toward the top, and the spaces to the several boundaries are pleasantly varied. The dark, rich note made by the hair, beard and tie are not repeated in any part of the arrangement, thus more effectively centering the interest on the head where it belongs.

Though the picture is flooded with light, the collar is a note considerably lighter than the general tone and serves to accent or give color to the dark of the tie and beard.

Fancy dark shadows or black spots in the lower part of the picture, a dark suit for instance, or blacks under the arms, and the effect would have been gone.

As it is, the value of the clothes approaches the note of the background and the whole effect is simple. There are no notes or spots to attract the attention away from the head, and we have a very simple, effective portrait.

However, spotting is not always so simple. In more elaborate arrangements other spots or notes will be needed to fill spaces as well as to balance the more important ones. In such an arrangement care should be taken not to get the subordinate spots, as I shall call them, too dark, and to pay such attention to the spacing that the whole effect shall be decorative. When the atmospheric conditions will allow it, these spots should be kept a little lighter or smaller, so as not to interfere with the force of the more important accent.

This treatment applies as well to landscape as to portraits.

For instance, take the painting by Cazin, in the Luxembourg, at Paris.

It is a combination of figure and landscape composition called "Hagar and Ishmael." Nevertheless, I fancy Cazin bothered himself very little about the historic truth of his picture. It was undoubtedly painted at Etaples, in the north of France, where he has his summer home.

The group of dark pines in the distance seems to be the important note of the entire composition, but there is much else of interest in the picture, and this group does not so much center the interest at once as it draws one into the picture and gives a sense of great depth. The composition contains much else of interest, but nowhere in the arrangement do we find a spot of equal strength and size; thus its effectiveness is not destroyed.

Of course, these spots are used to vary the spaces and carry out the beautiful sweep of the line in connection with the figures and their various accessories, but these are subjects that I have carefully gone over in other papers and I shall not repeat them here.

The point I wish to make clear is simply this: Do not repeat the dark accents in a light picture, if you want that accent to keep its effectiveness.

Nowhere can this sort of a spot treatment be studied to better advantage than among the modern illustrators. They work continually in black and white, as does the photographer, and not having color to help out in locating the accent where they wish it, they make use of this sort of treatment. If the reader will give himself the trouble to look over several numbers of the *Harper's*, *Century* or *Scribner's* magazines, he will discover that the illustrators are very chary of their pure black, but when they do use it, it is very effective.

Do not abuse your black in a light picture, nor your *light in a dark picture*. They are the extremes of your palette and the controlling notes of your arrangement.

An indiscriminate use of either makes it simply a question of getting it all in. They should be saved up as the last trump and then played on the right spot.

A $1,500 COMPETITION.

C. P. Goerz announces an international photographic competition in which prizes to the value of $1,500 will be given to pictures made with Goerz lenses. Full particulars will be furnished on application to the American office, 52 East Union Square, New York city.

VOIGTLANDER AND I.*

BEING THE REMINISCENCES OF JAMES F. RYDER.

CHAPTER XX.

LUCK AND WORK.

A man can not live upon the dinners he ate last year. A courageous spirit must be fed and sustained. In his march through life he must keep his place in the procession. It is better that he step upon another man's heels than have his own stepped upon. He must keep pace with the crowd of strugglers reaching for the front. He must not be jostled or elbowed from the straight course. He can not halt and hold his place; the man behind would step in front of him.

Verily, it is the persistent, continuous march by which the goal is reached. There may be stretches of level, even gentle undulations. but the sum of the journey is up-hill. It is the story of every active man's life, if ambition to win be the incentive. Fortune and misfortune lie beside his path; he sometimes gets a boost, sometimes a "throw-down." He must be up and off again. He must never know he is "licked." The strenuous element in some natures make it possible for men to force the fight, to climb the heights and to finally reach the summit.

Fig. 23.

"There's a river called Luck that runs
through our lives,
But her flood it is sluggish and slow;
And the treasure which by her false current
arrives,
Will never make very much show.

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*Copyright, 1901, by James F. Ryder.

"And the man who sits down by her treacherous shore,
Vainly hoping his fortune to win,
Will wait till his locks are frosty with hoar,
For his ship — it will never come in.

"But a far other stream is the River of Work —
On her swelling and vigorous tide
No place is reserved for the drone and the shirk —
They must loiter and die by her side.

"And the man who with confidence, boldness and pluck
Embarks on her affluent breast,
Will sail smoothly on and catch up with his 'luck,'
By generous fortune caressed."

There is a place at the top where the successful climber may sit and look back over his journey. He will doubtless find some defects and regrets, which he can afford to complacently regard as unavoidable incidents, found in the paths of most travelers.

The height upon which he sits is the reward of his struggle — he has "got there." And the name of his destination is *success*.

Where one succeeds, many fall by the wayside and fail. Such is life!

Skill is recognized as the foundation stone to business success. There is another important factor which contributes to success in photography. It is sometimes born in a man. When not, it should be carefully cultivated. As a sure help — manners, respectful attention — a desire to make every customer a business friend. The man behind the counter carries a power in his work by his manners, if he be courteous and magnetic. His customer should be made to feel he is receiving the best attention and earnest efforts of the salesman to please. A suspicion of indifference is fatal to full confidence.

The man behind the camera is another power. He can attract or repel. He can give conscientious effort and care, or he can give neglect. He helps to make or unmake his employer's reputation for excellence in portraits.

He can caper before children and tell the dear, credulous things remarkable stories of little birds and make himself beloved by them. He can be as tender of old ladies as though they were his mother, and they can say, "What a pleasant gentleman he is," or they can say something else. Children and old ladies know — young and old men know — all people know a cheerful from a morose or sullen man, wherever met.

The "upstart" young man I am sorry for. He does not know he is an upstart; he is unconscious of the fact that it "would have been money in his pocket" had he not been born, but since he exists we must make the best of him.

The collodion epoch offered opportunities for study and advancement hitherto unknown. Many were the formulas and methods. Some were successful in the hands of certain practitioners, while the same formula was tabooed by others. The most successful workers had their followers and imitators.

Mr. Hugh O'Neil, for many years a skilled operator with C. D. Fredericks, in New York city, published his formula for preparation of collodion which attracted attention. After enumerating the ingredients usually employed, as — alcohol, ether, soluble cotton, iodides, bromides, he added, "Mix with brains."

As much value depended upon the careful and exact compounding, the necessity for brains was recognized as a wise element in the construction.

Brains were cudgeled for methods and devices how to meet the wants of mechanical helps in printing. Here was a field for ingenuity and invention which was put to work. The query which had been much in my mind as to whether portrait heads the size of life might be accomplished in photography, was solved and answered by Mr. D. A. Woodward, of Baltimore, Maryland, in the invention of the solar camera, an ingenious and simple means of accomplishing a really wonderful feat. Mr. Woodward's invention was very important to photography.

The reaching-out of a mirror from a

closed window to catch the sun and bring it into a darkened room was the story of that invention. The mirror was attached to a camera of which it was a part. A device for controlling the motion and direction of the mirror, easily operated from the inside of the room, is made to follow the sun continuously and brings the light into a condensing lens and through the negative plate bearing the image to be enlarged, thence through a carrying lens, the image is projected upon the sensitive paper, which receives the portrait or image of the negative.

It is a most interesting process, and to watch the growth of an image the size of life coming from a head the usual size of cabinet or card plate, easily lured the enthusiast to a forgetfulness of time and a disregard of the cost of material consumed.

The first solar camera which came to Cleveland was mine. So beautiful were the prints obtained by this device I kept myself filled with pleasure in making them, even though they were not always ordered. I soon secured the services of Mr. Charles H. Fontayne, of the then noted house of Fontayne & Porter, of Cincinnati, to join me in the production of portraits in oil, in which we did a fine business, which we continued for some years. Mr. Allen Smith, Jr., a famous portrait painter of those days, painted these portraits upon a photographic foundation, made with the solar camera, thus giving this class of work the stamp of true art.

So rapidly came perfected methods, modifications and discoveries in these years between the fifties and sixties — all growing out of the employment of collodion, it was difficult for the practitioner and learner to keep ahead or to keep even with the pace of improvements.

Negative by F. C. Baker, Cleveland, Ohio.

TO THE FOLD.

In the magazines published in the interest of photography were given examples of the cream of notable photographic work, which were eagerly noted by the craft at large and served to keep us advised of the progress being made by those we recognized as leaders in the various cities.

A number of men who were especially skilled in daguerreotype and made very brilliant work in that process, did not shine so bright in the collodion products. A close watch was kept upon the prominent and most progressive men who were objects of praise and criticism in accordance with the showing they made.

FOCUSING.

Going it blindly, or proceeding on guesswork, that is how the present methods of focusing may be aptly described. This part of the art of photography seems to have received scarcely a fraction of the attention that its importance warrants.

The idea seems to be that if you see the image on the screen, that is sufficient; so a cloth is thrown over the head, some attachment like a miniature shed is lifted, or a somewhat more pretentious bellows-like arrangement, with peepholes, is drawn out a few inches — mere makeshifts, and manifestly the outcome of the idea that seeing is achieving.

All credit to the producers of lenses that approximate perfection, and very good it is to have one of these marvels on your camera. But why not have it do its best? Why, when possessing so capable an instrument, slight your part, and so nullify its capabilities?

For good results you should have the best possible focus, and you can not secure a good focus unless your eyes have the best possible opportunity for observing.

It needs no elaborate argument to show that if light is admitted at rear of screen, equaling the small amount coming through lens, the image is almost obliterated, and a small ray will render it so indistinct as to be useless in showing when you strike the point. But let every particle of light be excluded from back of screen and have your eyes at a distance from it to suit your sight; then your image will rise bright and clear, and you can take your measure of what you want as easily and as correctly as with a foot-rule; furthermore, the results will be as much superior as you could attain by spending $50 or more for a lens. G. D. H.

[In connection with the above our readers may be interested in the advertisement of a new focusing device which appears in this issue.— ED.]

ADDRESS BY ELBERT HUBBARD, OF EAST AURORA, N. Y., AT THE NATIONAL CONVENTION.

(Editor of the *Philistine* and *Little Journeys*.)

Mr. Chairman and Ladies and Gentlemen,— I believe it was Emerson who once said that if you go to Europe and bring back much, it is because you took much with you. I might paraphrase that remark here this afternoon by saying that if you take much away from this hall to your homes it will be because you have brought much with you; but I congratulate myself on the fact that I am addressing an audience that can fill in between the lines, that will understand a good many things that I leave unsaid and that will put the very best possible construction upon my faltering words. If there is any moral in what I have to say to you this afternoon, you will have to get it on the wing.

There is an ancient and honorable conundrum to this effect: "Is Photography Art?" You should all respect this conundrum; it has done great service; it is old, venerable, deserving of respect. Coming in on the train this morning from the village of East Aurora, a gentleman sitting behind me reached over and said, "I understand you are to address the photographers?" And I said, "I am to have that honor." He said, "May I ask you a question?" I said I would be delighted to have him ask me a question. He says, "Is Photography Art?" [Laughter.] I said, "My dear boy, art is a matter of haircut and neckties." [Applause and laughter.] But I am going to repeat that question seriously and sincerely this afternoon, and I am going to dispose of it once for all. Whether photography is art or not depends upon the photographer. Art is not a thing separate and apart; art is the beautiful way of doing things. And you will have art wherever you have the artist; and where the artist is, there art will come and make her home, with all things beautiful and true; and there she will stay; and after the artist is dead she will yet remain in the neighborhood for a while; but finally she will go elsewhere. You will have art wherever the artist is.

In the beautiful town of East Aurora, where I have the honor of living, we have a photographer — we are not entirely in the backwoods, you see — and a short time ago I picked up my copy of the village paper, the East Aurora *Blizzard*. [Laughter.] There are two publications in East Aurora, the *Philistine* and the *Blizzard*. And the *Blizzard* has ten times the circulation — in the town — that the *Philistine* has — much more popular than the *Philistine*. Half of the *Blizzard* is printed in Chicago, which is proof that it is all right. I picked up my copy of the *Blizzard* and I saw an advertisement there of the local photographer, a very excellent gentleman, indeed. He does not think much of me, but I think none the less of him on that account. There

Negative by Frank E. Marks, Camden, N. J.

THIRD PRIZE.

are lots of people who do not think much of me, but I tell them to be patient and they will grow to it in time. [Laughter.] I have nothing against this gentleman; I rather like him; but in this advertisement he proposed to take cabinet-sized photographs for 99 cents, and he said that if you did not have cash, you could bring him cordwood and Plymouth cockerels at 12 cents a pound! [Laughter.] And so I gathered in three Plymouth cockerels — no difference where I got them —[Laughter] — but I got them, and I took them up, and I had a dozen of those photographs made, a dozen pictures of myself; and when I took them down home my good wife thought they were pictures of Ali Baba. Ali Baba is my hired man, a man who has been with me twenty years — very excellent man. He has not traveled; he has not been to Buffalo for twelve years; but travel is not everything. He said the last time he came they charged him 25 cents for a dinner and they did not give him any pie — and he has never come back. [Laughter.] But he is a very excellent man. My wife does not know whether those pictures were pictures of the old man or myself. I gave them to the old man and he gave them out as pictures of himself. [Laughter.]

My advice to you, gentlemen of this convention, is this: that if you want Plymouth cockerels, it is quite unnecessary for you to pay for them in photographs at 99 cents a dozen. Mr. Moses was out to see me yesterday, and I noticed that he had his eye on my hen-roost; and I know that if Mr. Moses or "Papa Cramer" or Mr. Schervee, from Worcester, Massachusetts, or Pirie McDonald — I know perfectly well if these gentlemen were to come to East Aurora and open up a photograph gallery, they will never get their poultry by paying for it with photographs. They know a better way. It is a fine art, you know, gentlemen, to lift a hen off the roost without making her squawk. [Laughter.] And I believe, from the way that Moses looked over my hen-roost, that he can do it.

Art is the expression of man's joy in his work. There are many kinds of art. I am not going to encourage Moses to come to East Aurora. Moses is a very excellent man, indeed; I like him well, although there has been a family feud between us in long years agone — a thousand years before Christ, you know, my ancestors and his ancestors had it out; but we have bridged the bloody chasm and shaken hands and now we are friends.

Perhaps from my remarks gone before, you will gather that I live in East Aurora — and that is no mistake. East Aurora is eighteen miles from Buffalo. Some one has said that East Aurora is not a place, not a locality, but East Aurora is a condition of mind. [Laughter.] But East Aurora is a place, it is a locality; and I hope before you go 'way back to your homes that you will come out and see us at East Aurora. At East Aurora there is an institution called the "Roycroft Shop." I do not make any effort to conceal the fact that I have some relationship with the Roycroft Shop. I am not ashamed of my business; I like to talk about my business; I like to talk about my stuff; I am interested in my stuff, and I am interested in my business; and I believe that at the last modesty is only egotism turned wrong side out. Now, there are a good many points in every business that are very much alike, that we hold in common. I am not in business entirely for my health; but I get a good deal of enjoyment, a good deal of satisfaction out of my work. I am going to tell you a little about my work, in hopes it will encourage you to come out and make us a little visit there at East Aurora.

At the Roycroft Shop we make books and things. We do not endeavor to make cheap books; we do not make books to sell for 19 cents on Fridays at dry goods stores; but we make books just as well as we can. I do not care what business you are in, there are just two ways to keep away from competition, just two, and no more; one is to make your article cheaper, to undersell the other man, to make a cheaper article; and the other is to make a better article and give a better service and let him pay for it. [Applause.]

This is the richest country the world has ever known, richer far than England — loaning money to Europe. My boy said to me the other day — he is seventeen years of age; he takes some pictures — he said to me, "John" — he always calls me "John," because that is not my name. [Laughter.] But, before it escapes me, let me tell you about that. There was a gentleman riding out there in one of those little pneumatic-tired buggies, and he drove up to the horseshoer; they said, "Better drive up to the Roycroft Shop while you are here." I was out in the orchard, trimming apple trees with one of the boys. I happened to be next the fence. This man called to me, saying, "John, won't you come and hold my horse for a minute, please?" I went over and held the gentleman's horse and he went in and asked for Mr. Hubbard, and the girl said, "W-w-w-well, that is Mr. Hubbard out there holding your horse." [Laughter.] And so this girl told it to the boy, very much to my surprise, and the boy told it to another girl, and so I was "John" to everybody in the town. They all call me "John." My boy says, "John," he says, "'Most everybody here in East Aurora that wants a really good photograph goes into Buffalo and has a photograph taken at Hall's. Now," he says, "if we take a better photograph than Hall, don't you think the Buffalo people will come out to East Aurora?" I said, "Kid, you have a great head on you. [Laughter.] You are a chip out of the Roycroft woodyard." [Laughter.] I said, "That is exactly the thing to do. If you make photographs well enough, it is no difference where you are, people will come to you." I said, "My son, don't you remember the advice of that old prophet years ago, who called his son to him on his deathbed and said, 'My son, there are two things you should never bother your brains about. One is the future; never mind what will happen after death, just wait and you will find out. And the other is, you should never chase after women, because if you don't, they will chase after you.' [Laughter.] And it is no difference where you take photographs;

Negative by J. B. Watson, Warsaw, Ind.

if you make them well enough and do your work well enough, the trade will come to you."

We are making books at East Aurora; we are making them just as good as we can; and the trade comes to us. The difficulty we have is this: we are not able to make books good enough. We make books that range in price from two dollars to one hundred or one hundred and fifty dollars. We can accumulate a stock of two-dollar but not of the hundred-dollar books; they all go, and they go fast. Did you know that there are no book binderies in America, practically speaking, and across the sea there goes continually a stream of books to be bound in London, Leipsic or Paris; and the man who sends a book over there will wait a year for it to get back and he will pay fifty or a hundred or two hundred dollars for a single binding. There is no use of your trying to underbid somebody making a cheap thing. The thing to do is to make your article good enough; it is the same in photography, the same in bookbinding, the same in printing. I knew in London a bookbinder, Saunderson by name — by the way, he took his wife's name; I kind of like the idea of a man who has a wife so much smarter than he that he takes her name. This man was a lawyer and when he was thirty-eight years of age he reformed and went to binding books. [Laughter.] And he is a photographer, too, and he makes pictures just as good as he can; and he binds books just as good as he can. He has all the work that he can do. He will bind no book for less than one hundred dollars, and the most of his work comes from America. Well, now, we can do anything in America that they can do anywhere else; but we have kind of lost sight of the fact that there are rich people and plenty of them who want these beautiful things and who are willing to pay for them, and in America the tendency has been more and more in manufacturing to make things cheap. There are a great many people here though now who, instead of wanting a great many cheap things, want a few beautiful things. We have about three hundred people employed in our establishment in making books and things, and it may interest you to know how this business grew up in this obscure country town where there is no wealth, where there are no special enterprises. So I will tell you very briefly about how we came to start this business. I was a farmer in that town, a farmer with a literary attachment. I raised fast horses. My friend, Schervee, says it is a very natural evolution, indeed, that a man who is in the business of raising fast horses, very natural that he should drift into bookmaking. [Laughter.] But it was all accidental; every good thing begins as something else.

I was a farmer there, and years before I had been a printer's devil, and I never got over it. I had a little printing outfit set up in my barn floor. A young fellow came up there from Buffalo in 1895 to spend his vacation; he was a newspaper man, reporter, and he saw my little printing outfit there, and he said to me, "Why don't you issue a pamphlet, you and I; now, let's do that; let's issue a pamphlet and go after our enemies and," he says, "we will revive the age of the pamphleteer." You remember Dean Swift was a pamphleteer; Junius was a pamphleteer; Milton was a pamphleteer; in the good old times, you know, the pamphleteer was a man who issued a pamphlet every year, or every little while, perhaps, telling about certain people that he did not especially admire. If you trod on his toes coming out of church, he did not resent it, but at the end of the year you received one of his pamphlets; and in the pamphlet you found a list of all the disgraceful things you had ever done, or might have done, and a list of all your kinsmen who had been hanged — or should have been hanged. [Laughter.] And the thing was immensely funny to everybody except the man whose name was mentioned there. [Laughter.] The pamphleteer added greatly to the gaiety of nations. So he said, "Let us revive the age of the pamphleteer; let us go after our enemies." I said, "That's all right, we'll do that." We walked out across the field, a beautiful Sunday morning in May. We sat down in the shade of an apple tree to make a list of our enemies, and we really could not think of any sure-enough enemies. I believe at the last that nobody has any enemies, excepting those he conjures forth out of his own inner consciousness. The idea that you have enemies is only egotism gone to seed. This is a busy world; nobody has really time to sit right down and hate you. And you are not of enough importance anyway. But, although we could not think of any enemies, we were bound we would go for some one; but who would we go for? We said we would go after the editors of the magazines, for we were both writers and we had been sending out manuscript for years, and this manuscript had always come back. Like the cat, it always came back. And we said, "We will write about these editors of the great magazines; we will tell just what we think about them, these men with this woeful lack of taste, these men totally unable to appreciate a good thing." So we agreed to meet the next day, and in the interval each would write an article about what he did not especially love. I remember I wrote about Mr. Bok, of the *Ladies' Home Journal;* he is a very excellent man; I hope no one will smile at him here this afternoon. Mr. Bok has given this country a very great deal of excellent advice. He is the man that says that widows should not wear tan shoes; he is the man that says it is very bad form to blow the foam off charlotte russe. (I sprung that in Milwaukee the other day; it went pretty well; I was afraid it would not go here.) [Laughter.] So I wrote my article on Mr. Bok; my friend wrote about Mr. Howells. I remember asking him, "What's the matter with Mr. Howells?" "Oh," he says, "nothing, only he is too damned successful." [Applause and laughter.] "He needs going after, you know, like that man down South that needed hanging." We all kind of resent success when it is not ours; and the motto of our pamphlet was to be the motto of Donnybrook Fair, "Wherever you see a head, hit it." And so we set up our little pamphlet and got it all into print; we ran in a few little poems at the bottom of the pages. That is what poems are for, you know, in magazines, to run in at the bottom of the pages — sonnets, quatrains, couplets. We printed that pamphlet; we got it all ready to send out, when we were confronted by a condition, not a theory. We would have to pay 1 cent on every one of those pamphlets, and we had printed two thousand. We made a list of all the literary people in America, leading photographers, artists and printers; we were going to send each one of them one of those pamphlets, going to create a great splurge in a literary way. We got them all printed and ready to send out, and it took twenty dollars in postage. My friend did not have twenty dollars; he never had twenty dollars in his life; he was a poet. And I did not care to spend twenty dollars in this thing just for the fun, and we were about ready to give up when a bright thought came. I said, "I will tell you what we will do; we will enter it at the postoffice as a magazine, which will give us the magazine rate of a cent a pound instead of a cent on every one of them. Great idea. We took the pamphlets up to the postmaster, who was also a grocerykeeper in that town, and we weighed them on his sugar scales and we found it would take sixteen of those pamphlets to weigh a pound — sixteen to one. [Laughter.] And I says, "Look here, now, Mr. Postmaster, we want you to enter this magazine as second-class matter." He says, "I will have to have some time to look this over." We knew he had never had a magazine entered before; but he said, "All right, I will look it up." I went down the next day, and he says, "That is a regular pamphlet in my mind; there is no doubt at all but that it is second-class matter all right." [Laughter.] So he wrote on to Washington, recommending it as second-class matter, and we got out that issue of the magazine — sent them out. Then we thought we would get out one more issue. If you have ideas plus, and you can not get them in print in your own town, you have plenty of right to start a magazine, always plenty of precedent for starting a magazine — and plenty of precedent for quitting. And at the end of one or two numbers; it is nobody's business. We were going to quit at the end of one. Finally, we said, "We will get out one more, and then we will quit." We got in a few subscriptions from misguided people, and we said, "What will we do with these dollars? We will keep them; they are just as safe in our hands as in the hands of the other fellow." At the end of the third number my friend left me to run the magazine. I said, "I will run the magazine a year; I will not begin a thing and have the disgrace of quitting; I will go on through the year." I hired a boy to help me run the printing-press. The boy must be kept busy; there was not quite work enough to keep a boy busy, and we said we would print a book. Mr. William Morris, whom I met in England years before, was printing beautiful books, as good as he could. I brought back one of those books with me. We modeled our book after the book made by William Morris. It was the "Song of Solomon." We sent a Chicago paper one of those books and they criticized it, accused us of stealing new stuff on which the copyright had expired. [Laughter.] Another man said he had seen this same stuff somewhere else, could not remember just where it was; but we printed six hundred of those books, and sold them at two dollars each. We found there were people who wanted a beautiful book, peculiar book, a book made by hand just as good as it could be made; and one day a girl came into the shop and she said, "You boys might go a little further back in your history of printing, and illumine that book by hand, draw in the initials just as the monks did in the olden time." So we did. This girl went to work to draw in the initials. We found there was a market for those beautiful books. We hired girls to help this girl. I remember when one girl came to us she said, "I can never do a thing like that. There is no one in my family as far back as I can remember who had any art. I can not paint." The other girl said, "This is the way we do it; we copy our original designs from these old books, printed three or four hundred years ago; we just put impression paper on one of those initials, and then we go over the outline of that initial, and then draw in that initial in the place in our book where it should be, and then we fill in the color. We do the coloring, and then we take a gold brush and draw a line around the outside just like this." "Why," the girl said, "I can do that," and at the end of the week she found she could illuminate a book as well as the other girl. I remember when we gave her the pay envelope she wanted to know what it was for. "It is your money." She started home on a run to show father and mother she was earning money, doing something for somebody. When she came back on Monday morning I noticed a light on her face I never saw before there; she carried the crown of her head higher, and her chin drawn in; she was *doing something for somebody,* and the consciousness of this was already adding cubits to her stature. There is only one way that you can add something to your stature, and that is by doing something for some one. Nobody knows what he can do till he tries; so our workers there for the most part are, with three or four exceptions, country people — girls and boys. They have not traveled, and none are college graduates; very few have had the advantages of a high-school education; yet many of them can think things with their heads and realize them with their hands, so as to give an esthetic satisfaction to these art collectors in New York, in London, New York, Chicago or Buffalo, who have been the wide world over, and who know the best things that have been produced in the line of art. It is no disadvantage to be born in the country, to have been born and bred to work, to do things with your hands, to economize time, to do something for yourself and to do a little something for somebody else; that is no disadvantage. It is the greatest blessing that can come into your life. I would not trade the education I got on the old farm down in Illinois, this thing of waiting on father and mother, doing things, going without things, making things if you have to have them — I would not trade that for all I have got in college or in travel. [Applause.] Do not feel sorry for the country boys and girls. We have taken them on a few at a time there and taught them how to do things; we have tried to find out what each one could do best — what he wanted to do — and then we let them do that. We found one or two old men in town who could not bind books, who could not print them, and who wanted to work; they were blacksmiths, carpenters; we let them do the thing they could do best, and so we have a lot of men working at blacksmithing. My own boy is working in the blacksmith shop, thinking out how to make candlesticks, chandeliers and so on; there is a market for them. We also make furniture in the same way, made by boys we have taught in that town. There is a market for it.

Not how cheap, but how good. Make things solid, make them genuine, make them beautiful. In order to keep our girls and boys there and stop the mad rush from town to city, we have adopted a certain line of treatment toward these employes; when you come to see us, there you will see palms in every room, and birds, and flowers; you will see a piano in every room; and in one room you will see a pianola, which some one has said that I myself play with great delicacy of touch. [Applause.] So we now have a musical instructor. I do not have time to play the pianola as much as I would like to; so we have a man there who teaches the girls and boys to sing and play the piano and violin; we have a band and orchestra, and a choral society; and we have stopped the rush in one town from country to city; we have turned the tide of emigration in the other direction. [Applause.] I endeavor to treat my girls and boys just as well as I can; they are doing for me the things that I would do for myself if I had the time and had hands enough. Unfortunately, I only have two hands, and although I have all the time there is, I can not do the things for myself that I would like to. These people do my work for me. Remember this, that every woman you hire, every woman in your employ, is doing for you the thing that you would like to do for yourself if you could; each of those individuals is your other self. So is it not natural, right and proper that you treat them just as you would like to be treated yourself? Well, I guess so. Just put yourself in the other fellow's place; so I treat the boys and girls just as well as I can, as a matter of expediency, to get the work well done. It pays. We are making money, you know. I think you will think a little better of us now. [Applause.] We are having a good time, getting an education and having a lot of fun. It is just eighteen miles to East Aurora, and the trains run every little while. You are all manufacturers, and we want you to come and see us, if you can; see what we are doing, what we are trying to do in that little town of East Aurora. Many of you I can call by name; a good many of you I know and can not call you by name; but I know you just the same, and my sympathies are with you, my heart is with you; you are doing good work, and you are doing it just as well as you can; and God bless you all. [Applause.]

MY DEAR SIR,— I am an amateur, and am sticking to it, but it is mostly due to your publications, THE PHOTO-BEACON especially. I began about three years ago and did not know whether a time exposure was a second or four minutes in bright sunshine. You will find enclosed $1 for renewal of THE PHOTO-BEACON. I wish it would come oftener, but do not see how it could be much more helpful. We feel that the fellowship through it is inspiring and highly educational. Any one who loves nature study misses a good thing by missing it. Yours truly,

G. W. WHETSTONE.

THE IDIOSYNCRASIES OF THE CUSTOMER AND A WORD ABOUT FAKING.

A talk by Morris Burke Parkinson, Boston, Massachusetts, at the National Convention.

Mr. President, Ladies and Gentlemen,—Some twenty odd years ago when I lived in Brooklyn, New York, the newspapers as well as some of his own congregation took the Reverend Henry Ward Beecher to task for his tendency to perpetrate jokes in the pulpit. He finally took notice of the criticisms and from the pulpit told the people if they only knew how many more jokes than those he perpetrated got on to the end of his tongue to be thrust back unspoken into the eternal silences they would say no more about those that escaped him. That was the end of all complaint. In a similar manner I feel in danger from you in this necessarily reminiscent talk for my use of the personal pronoun I, but if you only knew how many times my hand has started to pen the word and I have gotten around it by a more circuitous route, you will forgive me for the number of times I employ it.

I sometimes think that both the irritation and the comicalities that garnish the experience of the professional photographer would tax the power of his tongue or his pen to adequately portray. The irritations sometimes almost reconcile him to the fact that his life on earth will not be eternal, and the comicalities — by a swing of the pendulum — to the possibility that after all he may be destined to live to a good old age. Both to be appreciated should be observed or experienced under the skylight.

I have often regretted that I did not begin years ago to jot down in a book hung on the walls of my operating room the notable happenings both painful and amusing. I presume I may have forgotten enough to have filled a goodly volume.

On making a rough and hasty estimate, I find that I first hung out the shingle of a professional photographer about 150,000 hours ago. Roughly estimating during that time there have been about 50,000 working hours. I think I am within bounds when I affirm that in 10,000 of those 50,000 hours, some lady has come to me and said, " Mr. Parkinson I have been to this, that, and the other photographer for years and never yet have had a good picture. You see when I am in motion " (by the way whenever they use the word motion I invariably think of dancing and skating, but they always mean, of course, conversational motion of mouth and eyes; but let her resume) " you see I have so much animation; but when my features sink into repose I have such a compressed and drawn look, especially about the mouth." Of course in thousands of cases this is true, variously true, in statement. It is ofttimes entirely true and it remains for the art and tact of the photographer to overcome the difficulty. But I am only dealing in extreme types to-day with the hope that there are some present who may recognize old friends of their own. Well, I look at the lady—I almost said I cast my eyes in the direction of the old, old story. I look at her face and I am free to confess on this particular occasion (not the whole 10,000 times, of course), like Tallerand, language is given me to conceal my thoughts.

I never say to her, no matter what other photographers might do: Madam, you have probably had many excellent likenesses, well lighted and natural, but you doubtless mean that your photographs have never been beautiful. Your friends I presume roll your proofs like a sweet morsel under their tongue because (at the expense of the poor photographer) it gives them a chance to tell you that you are better looking than you are. I never say even in an extreme case, "For heaven's sake when you were ten years of age why didn't your father have some of your front teeth jerked out so you could shut your mouth." I never say, " Madam, when you are out in society having a good time always keep moving and talking, for if you ever stop to think and thus sink into repose there is grave danger that your face will be a good likeness of your so-called bad photographs." Some other photographer might do it, but I never tell her that I regret I have not a kinetoscope about my person, for then I might be able to photograph her animation.

But I do say something like this: "Your case is not entirely without precedent. It occurs to me that I have had several instances of difficulties like yours in my long experience. I feel sure that I will be able, with my best efforts, which I will gladly place at your disposal, to make you a satisfactory portrait—which I trust will make you feel that you were not misdirected when you were advised to come to my studio."

One of the most constant and abiding irritations a photographer has to deal with is the insistence with which mamma, papa, sister, cousin, aunt, nurse and even Bridget press into the operating room to be present at the execution of the poor little fellow, who, if left alone to get acquainted with the artist, would soon assume a naturalness that would suggest poses and expressions resulting in pictures destined to bring pleasure to the hearts of the family for years to come. I hear some one say, "Why don't you keep them out?" After an experience, as I said before, of 150,000 hours, I have made up my mind that nothing short of a policeman in uniform will do it. Hints will never do it; requests will seldom do it; demands will often fail. A gun might keep them out till near the end of the chase, but I'll warrant that some one or more of them will creep in to be present at the death. But even if they do not edge in to be at the right hand of the artist for the final and perhaps most important exposure, a giggle from nurse and Bridget, who have placed themselves immediately behind the background not over three feet from the little sitter, who has ears though he can not see them, and quick as a flash grabs the head rest and wheels around to find out what the joke is. What is the secret of this desire on the part of all to see the picture taken, for it is certainly an overruling passion? I have analyzed it to some extent and come to the conclusion that with Bridget and the nurse it is a saturated solution of curiosity, pure and simple; but with mamma, while the saturated solution of curiosity is not absent, it is mixed with a ten per cent solution of a mistaken desire to help. You notice that even with mamma I put the desire to help at ten per cent and curiosity at 100. Time and time have I talked to a mother like this when about to take photographs of her child: "Now, Mrs. Doe, you and I both desire the same result,—the best possible picture of the little girl. If she should be frightened, I will call for you, but otherwise I can get the best results if I am left alone with her. The presence of a relative, even a mother, has a self-conscious producing and embarrassing effect if the child is old enough to realize that something out of the ordinary is going on." "Yes," says mamma, "I understand," but still she stays. So I try again, I explain how a mother a few days before in trying to hide behind the camera out of sight of her beloved little one, just as I was pressing the bulb for the best expression in so doing hit the said camera with her elbow, as I discovered on development, knocked half of said beloved little one off the plate. "Yes," says mamma, "Certainly, I understand," but still she stays. Now I know by her assent that I have convinced her and overcome her ten per cent solution of helpfulness, but because she stays I have her saturated solution of curiosity still to contend with. In fact, that is where I get my cue to approximately estimate her desire to help ten per cent and her curiosity at saturation. In short it almost seems as though there are some mothers who would rather see the fleeting expression when it is taken or when they think it is taken, at the risk of spoiling it by their presence than by their absence secure a counterfeit that they may enjoy many years.

Well, mamma stays, and having given up all hope of being able to dilute the solution of her curiosity, I allow her to hide behind a screen over on the right, baby knowing all the time where mamma is and dividing her anxious or furtive glances between the camera, the toy monkey, and the direction whence her maternal progenitor last disappeared, with the result that in the photograph produced, the baby's body faces the camera, the face is turned toward the monkey, and the eyes, at nearly right angles to the two former, are looking squarely at mamma, whose irrepressible curiosity impelled her to peep around the side of the screen just at the fatal moment. But let us do mamma full and complete justice. As soon as she is aware that the baby's eyes are turned nearly inside out to see her, she proves her desire to be helpful and do all that in her power lieth to assist in producing a splendid picture, by getting back behind the screen again just as quickly as possible. She little dreams that she has already ruined the gem of the collection beyond repair.

Then take the case of some other mother who shows her devotion by being willing to "stand by me" after having the benefits of her absence politely explained. I make the best of the conditions and say to her, "Kindly do not say a word to little Johnny about his M-o-u-t-h," spelling out the word for fear that little Johnny himself might get on to my reference to that elastic, refractory, but very important organ. After having been engaged for some time in getting Johnny's nether lips into reasonable proximity one to the other, without letting Johnny know what I am working for, as I found that their normal position, or the position they had held for the last fifteen minutes, would allow me to shoot a large-sized marble into his mouth without hitting either of them, mamma, who has forgotten my admonition and who evidently thinks I have been exposing plates as fast as I can of that open countenance, suddenly bursts out with, "Johnny, darling, shut your little mouth." Without stopping to comment on her use of the word "little" in this connection, I will simply say that I am now *in for it* for another hour. If Johnny is under three, he will probably open the orifice to the extent of two or three more notches; if over three, will have become aware for the first time, thanks to mamma, that he has a mouth, closing it like a flash of lightning and in about the manner a live crab would close on the same little Johnny's toe had he the opportunity. And the curves and the angles that he will get that supple organ into for the next half hour give promise that with any reasonable amount of practice he may become a great contortionist. In time, I am generally able to extricate myself from even this dilemma, in which mamma's zeal has placed me, and do it by getting the little boy to talk to me. Only the other day, however, I nearly failed. A little boy who had a viselike grip on his lips carried it right through the pronunciation of his own name, I having asked him his name to woo him into forgetfulness of himself, and he gave it to me something like this, "My name is Johnny Wren." *

I fancy I detect an expression on the faces of some of the ladies here present which, were I to reduce to words would say, "Why don't you put some of your stories on to the men?" Should I search my memory, I do not think I should find it altogether barren of masculine reminiscences and I am only too sorry that I *can not* truthfully say that the party who was posing for me one day for a *bust-picture* and who exclaimed just as I was pressing the bulb, "Hold! wait a minute, I forgot to take off my *rubbers*" was a man, for it was *not* a man; or the one who insisted that I be called from the darkroom — no employe in the office being sufficient —where I had to remove my apron and gloves and touch my hair up to have her tell me, on my appearance upstairs, that she had just made an appointment for a sitting, but wanted to know from my own lips whether I could take the picture as well if the wind blew. This was, however, not in Boston.

But it *was* a gentleman who returned his proofs to me one day with a letter in which he said he was perfectly satisfied, in fact delighted, but would I kindly change his dress-coat so that it would have a short lapel and also make a high-cut vest to match, inserting one stud in the bosom of his shirt where there were now two. Lastly, he had unfortunately parted his hair that morning too much on one side, would I please part it in the middle!

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* Speaker repeating the words with compressed lips. EDITOR.

And it *was* a gentleman—but there was some excuse for him,—he had just been married,—who wrote me some years ago from a Southern State. He enclosed the bust-photographs (14 in all) of the people present at the wedding lunch they had just had out in the open air in an orange and palm grove of his

Negative by James E. Taggart, Delaware, Ohio.

Southern home. He wished me to return him a group-photograph of this scene. I could use the enclosed photographs, changing the views of the faces, making them look at each other or otherwise, completing the figures, costumes, etc., according to my artistic taste. The directions for the table were specified—he probably described it just as they had had it. A large bouquet of flowers in the center; both ends ornamented with a quivering mold of jelly flavored with sherry; big dish of chicken salad, right hand; platters of sliced ham and turkey, left hand; olives, confections of various kinds, glasses for drinking at each plate; bride's loaf with all its suitable trimmings to adorn one side of the table. "Be sure that you put in an abundance of everything," said he, "we had several kinds of salads and cold meat, cakes, cream and confections which you can arrange to suit your own taste." Well, it is needless to say that I returned the photographs, declining the commission with thanks. If, however, there was any one thing more than another which decided me not to attempt the execution of that order it was that mold of quivering jelly. I could possibly produce a photograph of the jelly, but there was no method of which I was cognizant whereby I could make it quiver.

A common experience of the professional photographer,—and I think you will all recognize it,—is the magnifying by sitters, both ladies and gentlemen, of trivialities in dress. Many a man will spoil a pose by imagining, though he has been in the dressing room fifteen minutes, that there is still possibly a grain of dust left on his shoulder, or that his mustache needs one more twist. I wonder how many hundreds of times I have had a lady spend three-quarters of an hour in the dressing room. One would think, and even yet I can not help assuming after all my experience, that after that she is ready for the picture—toilet complete, no more to be thought of. She has been with the mirror for three-quarters of an hour, but now she is in the operating room, far, alas too far, removed from the mirror, she seems to lose all confidence in what it has been doing for her all that time, for after I have placed the head-rest, having given her the pose and requested her to keep it, I walk to the camera to find that as soon as my back is turned she had begun hunting for a raveling that she thought might have become entangled in the upper meshes of her gown. And if I were to snap her picture then, I would get something like this. [Illustrating.]

Many sitters, both ladies and gentlemen, come to a photographer's studio with receipts of their own for the taking of their pictures. They have invented nostrums for the healing of the Nation Photographic. Not long since a lady art student, of uncertain age, whose picture I was about to take, asked me if I would be willing, after I had led her up to the brink, just before I pushed her off (she had the usual trouble—one of the 10,000) that she should woo an expression by engaging in literary conversation. I assented, of course. I soon told her I was ready and this is what she threw at me. "Mr. Parkinson, have you read Richard Carvel?" Well, for Mechanics in Art, commend me to this lady's method. I ought to have snapped it then and there, and mailed her the proofs, but I was too human. She cried, "I hope you didn't take it then, for I know *it* left me." (The expression she meant.) "Let us try something else," she added, and we did.

Another lady had this receipt: She said, "Mr. Parkinson, I am so nervous I can't bear to have you look at me. Now promise me when you take my picture you will turn your back. I will know by that sign that I am being taken." "I am afraid," said I, "that it will make you still more nervous and defeat your object. I fear you will move. In fact, when I glance at you I form a snap-judgment of your expression and the photograph is made." 'No," said she, "I have a *reason* and I prefer it the way I say." "All right," said I. I therefore took three or four positions of her, but did *not* do as she said but turned my back after I had *really* taken them (to deceive her). Finally she grew mistrustful and ended by asking me point blank if I *really* and *truly* took the picture when my back was turned. As this was the only chance I had of resembling George Washington, I answered, " No. I deceived you." Well I have seldom seen such an expression of disappointment over a trivial matter. Such a faraway look came into her eyes. If I could have taken her picture then! " I am so disappointed," she said. " I wanted a peculiar expression. This is for a special purpose." I did not ask her to say more. I knew now that it was Cupid's golden dart with which I had to deal. Far was it from me to intrude further into the privacy of her design. I *knew* as well as though blazoned on the walls of the operating room in letters of *love* that *he* was far away, *he* for whom her soul panted, he for whom this special expression was to be prepared, this illuminated face upon which it was not mete a vulgar photographer's gaze should rest. He was waiting for it and for her in some Golden Dell in the Crimson West. " Come," said I, " try once more. I promise you this time." And I kept my promise with about the result I expected. If I remember rightly the negative had about seven mouths and noses, fourteen eyes and ears and looked like a composite attempt at a portrait of the young lady combined with half a dozen of her intimate friends.

Once upon a time, I was organist and choir master for ten consecutive years at a Brooklyn church. A few weeks after I had begun my services there, I chanced to meet one of the old deacons of the church one day in the organ loft. Said he, " How are you getting along, Parkinson?" " Quite well," I replied. Everything in his manner indicated that he was trying to pay me a compliment, and the good old man never realized that his words admitted of any other construction when he responded with, " Parkinson, I know you'll get along all right." Our folks will put up with most anything."

Now, as a photographer, I have learned through sunshine and storm to take what I want, if I can get it, and take what I can get if the other party wants it, and like " our folks " I can " put up with most anything."

However, I think of one instance where I became angry but do not know to this day whether I sinned or not. A lady of aristocratic, imperious and condescending manner brought a little boy one day, accompanied by an old gentleman with the manners of an irascible old banker. The lady informed me that they almost never condescended to have any work done in Boston. She, of course, did not expect to get anything equal to Mr. ——, New York great man, naming the artist. This introduction, of course, put us at once upon the friendliest of footings. I hadn't the slightest doubt but before the interview should end I would be invited to the house for dinner. Such words are so calculated to draw out and concentrate all the latent talents of a photographer in joyful and enthusiastic effort. In equally seductive accents, I fear I invited them to stay *out* of the operating room. Pursuant to this request, the old gentleman immediately accompanied me *to* the operating room. He not only accompanied me, but began to pose the boy. He twisted him around and then twisted him back again, bent one knee and elongated one arm, curved the other elbow and straightened the other leg, jerked up his chin and then jerked it down again and in short did everything but box his ears and threaten to throw him downstairs. Faithful to the involuntary position of assistant operator (if that be not too high a term) in which *I* was placed, I watched the old gentleman and when, by his manner, I observed that his composition was about completed, I, like a faithful organ blower whose master has just written a symphony as yet unheard, raised my bulb-filled right hand to turn on the wind, when the old gentleman exclaimed, " Great heavens! you don't intend to take such a looking thing as that is, do you?" " Great heavens!" cried I, " you don't disown your own flesh and blood, do you?" Well, to make a long story short, as he refused to take the picture alone and also refused to let me take the picture alone, we adjourned *sine die*. The lady informed my employe in the reception room on her way out that Mr. Parkinson had decided not to photograph the boy, confessing that he could not make anything equal to Mr. Great Man in New York. The latter remark seemed to have the smack for a claim of victory over the poor photographer and makes me think of a little episode that happened to my colored hall boy last winter. In this the banner of victory was hoisted in a manner somewhat parallel. My colored boy was delivering photos. He told the trolley car conductor to stop at a certain street. The boy was on the rear platform. The street was about to be passed. The lad rapped on the window. The conductor looked around but gave no assistance. Finally the boy pulled the bell cord. The conductor rushed back, called the boy a name too vile to be mentioned and kicked him in the shins. The lad laid the photographs down on the platform, and with an upper cut under the jaw raised him (the conductor) in the air as if hoisted by his own bell-cord, the platform of the car seeming to come up at the same time and striking him in the back. These two blows should have been sufficient, but I regret to say that the boy in his righteous anger fell upon him and allowed the conductor's face to hammer his fist till the car stopped. When off the car, the lad laid the photographs on the snow and invited the conductor to come off. The conductor, bleeding and battered, seemed to feel that his triumph was sufficient for one day, pulled the bell, hoisted the banner of victory and rolled away.*

"FAKING."

I noticed in a magazine not long ago these words employed by an art critic who is credited with great knowledge in art and information in regard to matters photographic. He says, speaking to photographers, "You must remember that your means of expression, the camera, is simply a machine. It will make the wart on my lady's nose as clear and sharp as her beautiful eyes. It has no conscience, no feeling, no sympathy. There is no variation in the camera's eye; it sees everything equally well, and as a consequence, the interest is distributed all over the picture with the result that there is no special interest anywhere."

Now this important and almost fundamental statement struck me at once as strangely inaccurate. Every photographer has the means, and should employ them, of accentuating, by lighting and placing of accessories and backgrounds, the part of the picture to which he wishes to draw the eye by the centering of interest.

The very limitations of the lens he uses, if he diaphragm and focus it properly, will disprove the gentleman's statement. For example, under the conditions I have mentioned, in a bust portrait, the ears and hair will fall far below the nose, mouth and eyes in tone and sharpness of delineation. True, the wart on my lady may be as sharp as her nose, but if it be a wart occupying a front seat, we may ask it to stay there. Should we, or the lady, desire to have it removed, the knife and pencil, not to mention many other assistants, are ever at hand. This leads me to say a word about faking. This somewhat slangy word is coming to be very much employed by professional, amateur and also painters. The professional employs the word and the process to some extent, but for lack of time I think not so much as the amateur. The painter often seems to employ the word when applied to *photography* in *derision*. Show some painters a photograph and they straightway go nosing around the picture to see if they can not find some place where they can safely risk the guess that that place is faked; their fundamental dogma seeming to be that a section faked is a section wrong. Once I saw a landscape photograph handed to a noted painter, and looking at the great mass of clouds which monopolized two-thirds of the picture, he said, "The clouds are faked." On being informed that the clouds were untouched, with the very slight exception of two or three little places over at one side of the picture where they appeared between the leaves and branches of a tree not larger than a pea, he said, " Well, I knew there was faking done somewhere." Now I believe in faking. I admire legitimate faking — successful faking — faking that produces the results desired. That is one reason I love fine paintings. I consider painters to be the greatest fakers on earth and many of their fak-

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*Speaker illustrated Banner of Victory by putting thumb to nose.—ED.

Negative by F. R. Lockhart, Toronto, Canada.

SECOND PRIZE.

ings have been a great delight to me, I can assure you. Painters do not pretend to be literal in their representations of nature. Their very glory is in their impressionism, which is but another name for their faking. It would be as impossible as it would be undesirable for them to be literal. Supposing a painter should set out to make a landscape with the aim to draw, model and shade everything in it to a point of literal perfection. He must tarry over the light, shade and modeling of every triviality, every spear of grass and every leaf on the tree. This landscape must be so exact in literal perfection that it would disarm all criticism. When would he finish it? I will tell you—not till after Macaulay's New Zealander has from London Bridge gazed on the ruins of St. Paul's. No, not in a thousand years! And when finished, what would we have? Not so much, to satisfy the soul, as he gives us now when he holds up to our admiring gaze some giant of the forest without painting a leaf, or with one sweep of his skilled but faking brush he lays before us the broad stretch of some golden harvest field. They say that Millet painted many of his landscapes in his studio. I suppose nobody would claim that that exact and particular piece of harrowed ground with *just* that number of furrows, *just* that vegetation, *just* that conformation, like a realistic photograph, ever existed in France—the one upon which he stood his prayerful peasants in the "Angelus." And that little hazy village steeple, the tone of whose Angelus bell seems destined to be heard in fancy down the coming centuries by those who gaze on even the reproductions of that masterpiece, may have been dragged in, or some intruding tree removed to complete the composition.

Faking, too, in photography is not a failure because some microscopic examiner gets his eye on it and by some little difference in pigment or surface texture discovers it. You might as well say that my spotting a white spot out of a picture is bad because the original of the portrait, who knew the white spot was there before, gets her eagle eye down to it and discovers, though she can not see it a foot away, that something has been done there.

Now what is photographic faking, and I have been using this word not as slang but in its best sense? It is, if well done, simply improving the negative or the picture by any means in one's power. Some of us have been advised during the winter by a well-known painter, never to do it; if we do we are out of our sphere and will surely fail. We must absolutely confine ourselves to what we can make the machine do—only this and nothing more. The painter says the camera sees too much, but advised the photographer to leave it all in. He wants to monopolize the privilege of modifying it to satisfy the artistic sense. In other words, *he* wants to do all the faking. We all know the camera sees more detail, every tuft of grass, every leaf and flower, than a glance of the human eye does. As what the camera sees in all its details is the real thing, is really there, the product of the unassisted camera must be realistic, too realistic, as I will try to show. As the eye sees less than the camera in detail, more in masses, then the eye-glance as compared with the camera must be to some extent idealistic, and as the picture printed in the brain by the eye-glance is the picture we wish — should wish, and painters claim they wish to counterfeit in permanent pigment, who shall debar the photographer from modifying and softening the product of the almost more than realistic camera — by any manner of means in his power, be they what they may?

The picture should be judged on its merits, no matter how done. If it be half camera and half knife or pencil, it should be all the same, provided one can say, "Behold the very form and mold of nature." I have seen an album of amateur productions, which bore to me the ear-marks of much after-manipulation, that were, partly for that reason, so beautiful that they should make the amateur of thirty years ago turn in his grave with envy, if perchance he be not with us still.

It is the same in music. Its language is spiritual, not literal. What would be thought of a composer who should write a pastoral and make his instruments give *literal* imitations of the bleating of sheep, the mooing of cows, or even the song of birds, or the sighing of the wind in the trees? A Sousa or a Gilmore may regale the denizens of Coney Island therewith, yet not without a blush when he does so. Yet there *is* a language in the *true* pastoral that to the ear attuned breathes the very spirit of all these things — a cipher code as intelligible as was the message of his great achievement, though brought in dots and dashes to the ear of the great Marconi.

Then I say, if the almost microscopic camera produces a hard and wiry landscape, and the artist, if only by a trick of printing, can bring it back to nature as his eye-glance pictured the scene on his enthusiastic brain, even if by no more than the thickness of a skin of celluloid, why should we not say, "Fake on, thou deep and dark blue sea of photo toilers, ten thousand painters shall mock at thee in vain."

I remember some years ago visiting the farm of Henry Ward Beecher near Hudson. At one time I had my camera pointed westward from his piazza, over the velvet lawn, flashing between the blossomed apple trees, over the village, catching in the hazy distance the silver thread of that romantic stream that cuts the most magnificent hills of America as it rolls to the metropolis and the sea. As I was taking in the scene, Beecher, the man who probably had thrilled more thousands with more extemporaneous poetry couched in prose than any other man who ever lived, put his head under the cloth and said, "If you could only take that scene just as it is on the ground glass!" I do not remember my reply, but I might have said, "Mr. Beecher, you in your poetic love of pictures would not be satisfied. It would be too realistic. Reduced to an almost microscopic compass, you would not want a million objects delineated in all their minutest detail—you are too much of an impressionist for that."

So let the faker, whether amateur, professional or painter, take the falseness of ultra-realism, and by the witchery of his wand we shall see it fading into the hazy but satisfying distance till it seems to our delighted gaze to be transmuted into the very form and likeness of not *literal,* but *spiritual* and *eternal Truth.*

THE DARKROOM ABOLISHED.

The above is the title of the Eastman Kodak Company's advertising matter in this month's issue, and strong as is the assertion it is no mere juggling with words, but an actual statement of fact, and we feel certain our readers will read and reread the copy with the greatest interest. At the Buffalo convention we saw the machine in operation and it worked exactly as scheduled. It has a funny side, too, for at one blow it annihilates by practical demonstration the lingering fragments of the delusion that it is essential to be eternally tinkering with the developer so as to suit the exposure. On the same roll were exposures on the same subject with great variety in the time given, and yet all of them showed far better results than the average man could get by tinkering. Did it do nothing else but drive the last nail in the coffin of this long-lived fallacy, it would be a great machine, but it has even a better claim, for it does all that is claimed for it, and that is a great deal.

SOMETHING NEW IN PLATINOTYPE.

The saying that there is nothing new under the sun applies only in a restricted sense to photography, regarded from its scientific, as distinguished from its artistic side. For the amateur, working in a chance sort of way, as for the skilled scientist, operating on very precise lines, the chemistry of photography has a peculiar fascination; and while in the pursuit of some process the methods of each will differ, there occasionally come to both the most unwitting yet useful surprises. These remarks lead up to the references — some of them more or less humorous — which have from time to time been made in this journal to some special knowledge of working platinotype paper, of which I am supposed to be in proprietary possession.

The "something new" which I now write about has not, I may say at the onset, been lodged with my family lawyer, deputed to disclose it only on my decease to a breathlessly curious posterity. No; whether I have rightly or wrongly been charged with selfishly keeping to myself such advantages, I desire in this matter to offer to all those interested the results of some recent empirical experiments.

The obtaining of rich and varied browns on platinotype has long been a goal for which I have striven; the tones obtained on the Platinotype Company's sepia paper, though very fine, still left, to my mind, something to be desired, the surface degradation of many prints developed by the usual process being my greatest objection to it. Happening, therefore, recently upon the formula for sepia tones given by a foreign maker of platinotype paper of the developed-by-water-vapor order, it occurred to me to seek some modification of it which would produce what I wanted on our English company's "make." So, setting to work, I, after a time, realized my hopes. It is proverbially impossible to please everybody — individual taste in these matters is so infinitely varied. No single tone or quality of print can be put forward as suitable for every class of subject, else why have we the choice of fifty or more tints in carbon offered by the maker, who tries above all things to hit the taste of the fastidious worker. Yet I claim that the results obtained in the way presently to be described, are both new and, in an all-round sense, fairly satisfactory, in that the process secures warmer browns and fuller values in light and shade than any I have yet seen. Nor would you, Mr. Editor, have been burdened with this somewhat egotistical article had not the interest evinced in my prints when inspected and criticized at "Our Society" encouraged me to believe that a wider interest might be taken in "something new," and which has already been imparted to my Liverpudlian fellow members.

The new toning-developer formula is as follows:

Neutral oxalate potass..........	2	ounces
Mercuric chlorid................	1½	drams
Citrate potass..................	1½	drams
Citric acid......................	4	drams

First placing these ingredients in a perfectly clean bottle (16 ounce), add 14 ounces cold water, and within an hour after all are dissolved the developer will be ready for use.

Now, before going any further, let me emphasize the fact that the depth to which the printing is carried is an important factor in the resultant tone and quality of the prints. Print slightly further than for the usual blacks.

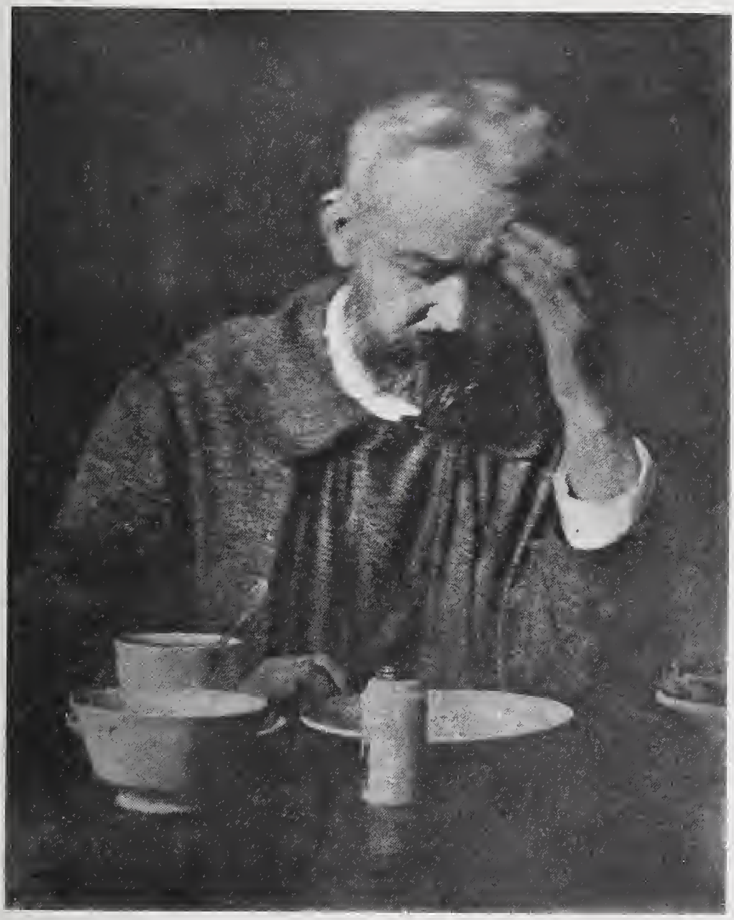
For a half-plate print take of the developer 1 part, say 1 ounce, and 1 part water. Slightly warm in an enameled dish over a gas or spirit lamp flame. Then, pouring back the developer into the measure, quickly flood it over the print placed face upward in the dish, rocking until fully developed. Fix, without any intervening washing, in the usual hydrochloric acid bath, made much weaker than the usual formula — make it not stronger than 1 in 200 — following up with a second similar bath, when I think it will be found that all the iron has left it, and the whites are fairly pure. Finish with the usual washing. Let development and clearing be carried on in a subdued light. When dry, the prints should be of a decided warm brown color, the shadows rich in quality and the deposit on the surface of the paper, instead of having the usual ingrained appearance so generally found in the mercury-developed print.

In my opinion, the best kind of platinotype for this process is the well-known C. C. brand of the Platinotype Company, that being, in fact, the only kind I have worked with for some years past; and the most suitable negative, one inclined to softness, yet not too thin.

I would like, as a last strong recommendation, to urge the importance of the worker making certain of the purity and genuineness of his chemicals.

Let him mix them for himself — do not let him trust to the chemist who prepares the family prescriptions and who hands him the bottles made up, so far as he is concerned, and to speak appropriately, in camera. Moreover, do not let him be tempted to take the mercury out of the stock bottle of intensifying solution which has stood on the shelf for months, possibly for years. Bear in mind that there are two varieties of the mercurial salt — the mercuric chlorid and the mercurous chlorid. You must have the first mentioned, and it is best kept dry and in a dark, or at least a shady place, until wanted. When kept in solution and exposed to light its potency is weakened.

One dose of the developer will suffice for three successive prints, but more than that should not be attempted. Granted a strict adherence to these directions, I feel certain that in the prints obtained by this process the worker will find a new charm in this, to my mind, the best of photographic printing processes.—*The Amateur Photographer (England).* C. F. Inston.



Negative by James Thomson, Roxbury, Mass.

GRACE AFTER MEAT.

Since the above was written Mr. Inston has modified his developer in order to avoid a precipitation which is apt to occur when the solution is a week or two old. He recommends that the formula be made up as follows:

No. 1.

Oxalate potass	2 ounces
Water	14 ounces

No. 2.

Citrate potass	2½ drams
Citric acid	4 drams
Mercuric chlorid	1½ drams
Water	14 ounces

For use these are to be used in equal proportions, taking about 1 ounce of each for a 5 by 7 print, all other instructions remaining as at first given.

This gives a good sepia brown, but the obvious advantage of having the developer in two solutions is that by altering the quantity of No. 2 used, the color of the print is also altered. The two solutions, kept separate, remain apparently quite unchanged for a considerable length of time and there is no reason to suppose they would deteriorate if kept indefinitely.

EDITORIAL TABLE.

D. C. PRUDEN, Kansas City, Missouri, has just issued a very complete catalogue of the photographic supplies on sale by him. Copies can be had on application.

THE HALL & LYON COMPANY, Providence, Rhode Island, has issued a price-list for 1902 of the photographic supplies sold by them, copies of which can be had on application.

FROM Z. T. Briggs & Co., Atchinson, Kansas, we have received a copy of their catalogue for the present year, which seems to be very complete, and includes practically everything that could be used by the amateur or professional photographer. Copies can be had on request.

FROM C. Klary, publisher of *Le Photogramme,* 15 Rue Taitbout, Paris, France, we have received copy of "La Photographic Du Nu" (The Nude in Photography), a very handsome book showing the very latest pictorial photographs of nude subjects. The price is $2.

G. GENNERT, 24-26 East Thirteenth street, New York city, announces that he has been appointed agent for Dr. E. Albert's "Eos" Collodion Emulsion, which is supplied in a ready prepared condition for immediate use. It may be used for dry plate processwork, but it is especially adapted for the three-color process, and we have no doubt amateurs will find a satisfactory use for it in the making of lantern slides.

FROM C. P. Goerz, 52 East Union Square, New York, we have received copy of a very interesting pamphlet concerning the "Hypergon" wide-angle lens, an instrument that seems to have the peculiar faculty of seeing round a corner. It embraces an angle of 135 degrees, that is to say, a lens of six inches focus will cover sharply to the edges a plate 20 by 24 inches in size. The pamphlet is very fully illustrated and copies can be secured on application.

THE G. Cramer Dry Plate Company, St. Louis, has just issued a pamphlet entitled, "Hints on Negative Making," by G. Cramer. In it will be found a very practical instruction as to the best means of making first-class negatives, and there are very many practical hints as to darkroom manipulation, standard formulas for developers, intensifiers and reducers, also description of failures, with instructions how to remedy such defects. This booklet will be sent on request to any one interested.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

Negative by Sarah H. Ladd, Portland, Ore.

SECOND PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. OCTOBER, 1902. NO. 10.

REVERSION.

A few days ago I took an afternoon off and went visiting. Just for the sake of variety I dropped into a few of the stock houses and had a chat with those in charge and with such of the customers as I knew, knowing that from some of them I would pick up a few ideas which at the time I happened to need. I was not disappointed. Three of my readers were candid enough to express their opinions to me. The first complained that I had disappointed him by not providing him with one of my "sermons" in the September issue, for, as he said, when he agreed with my ideas he thought I was the smartest man in Chicago, but when he differed from them he marveled that I could be so stupid and he wanted the little excitement that I provided him every month. The second gentleman began his remarks by inquiring if I had enjoyed myself when writing the article on "Amusement," and on my assuring him that I had done so he replied that he had enjoyed reading it hugely and that therefore we were quits. The third went for me straight by informing me that he wished me to distinctly understand that he did not believe in evolution. It just so happened I had the answer ready for him — parenthetically I may remark that this condition does not happen so often as I would like — so I retorted that belief anyhow did not amount to much in this world, for it was the only common meeting-point that the genius and the idiot happened to have upon the intellectual plane. Luckily for me he did not have an answer ready for this and so I carried the war into the enemy's camp by inquiring how he could account for the new varieties of flowers that florists are always placing upon the market, and if he knew that such variation was possible I would like to know where he could fix the limit, as from my point of view there was absolutely none. He was unable to parry this thrust and we parted, I to cogitate still further along the lines his conversation had started, leaving him to do exactly the same if he pleased.

Thinking men no longer *believe* in the evolution theory, they *know* it to be true, for it is the only rational explanation of physical, mental and moral qualities that we see around us. From the very dawn of history we find the brightest intellects admitting the fact of change, and even six thousand years ago they asserted in picturesque language the bald scientific statement of to-day that nothing is, as everything is about to be something else. The popular impression is that every change will be for the better, and so in the popular mind " reform " is considered to be synonymous with " improvement," but it need not necessarily be so, for it simply means a new form which may be theoretically worse than what preceded it, but practically better suited for the environment.

The essence of the evolution theory

is that every organism, or living being, must adapt itself to its environment or die, and that every species must do the same thing or die out. And in the same way customs, societies, organizations and systems must be modified as conditions change or the individuals they control will become laggards in the race. So in the six thousand years of history we find it recorded that man's economic, intellectual, moral and religious ideals and systems have changed, and therefore, it should be no surprise for us to find that at the beginning of this century everything, so to speak, is in the melting pot, whence they will emerge sooner or later in a new form of crystallization.

While we claim to be rational beings it must be frankly confessed that all the great advances made by the human race in the past have not resulted from the exercise of reason but rather from the effect of emotions such as fear, hate, love and greed. There is in man, as in inanimate objects, a vast amount of inertia, that is, a tendency to remain in the present condition until disturbed by a new force. If this force persists through a sufficient number of generations it will produce changes in our mental and moral fiber that will tend to become permanent, but if it be withdrawn within a comparatively short time the tendency will be to revert to the earlier condition, which is similar to affairs in the material world, where continuous effort is exerted to reproduce according to a fixed type, and this underlying tendency is well known to biologists by the name of "reversion."

The little conversation I had with my two readers on "amusement" and "evolution" resulted in a combination of these two ideas in my mind and led me into a train of thought which I wish to impress upon my readers. In a previous article I tried to show that rational amusement was, after all, one of the greatest factors for the moral development of both young and old; and in one still earlier, I pointed out that among the very earliest social forces tending to the development of the human race were drinking and gambling, which, while they happened to be injurious to many of the individuals, were in reality beneficial to the future progress of the human race, inasmuch as that they were the only possible forces at that time which could bring men together in amicable groups, this being the first essential to further mental advance. I also pointed out that these influences had served to make other and better forces which are now in existence and that one of the needs of modern society was to eliminate these primal influences as quickly as possible. I do not believe that it is possible to legislate them out of existence, for a law is worthless that is beyond the desires and ideals of the community. The only rational way, therefore, of eliminating them is by substitution, that is to say, we must put something better and more interesting in their place. Some who realize this are trying to develop in the individual a love for reading, but while this has done much, it is as a factor terribly handicapped by one fact which, unfortunately, most reformers have not appreciated, namely, home influences and example, because it is now known to scientific men that unless the average individual develops the reading habit before he is eight or nine years of age he will never acquire it, and, therefore, provision must be made for those to whom has never come and unfortunately will never come a rebirth into the kingdom of knowledge. It is therefore essential for such members of the community who demand a high status of moral conduct from the mass to provide means whereby good behavior shall be easy, and this, as I have indicated, is along the lines of providing rational amusement.

Here is where a knowledge of the law of reversion comes in because it tells us what will be the result if this work be not undertaken. A knowledge of this law also teaches us that mental and moral qualities are the least permanent and that it takes many generations to make certain traits persistent, and that there is in every individual a great tendency to revert to the earlier ideals. The first of these, as I have shown, is drinking and gambling, and before we blame the individual for resorting to these very questionable means of amusement each member of the community must inquire whether or not he is his brother's keeper, and if the answer be in the affirmative, he must not interpret the text to mean keeping him in jail.

F. Dundas Todd.

PICTORIAL COMPETITION No. 52.

This is a competition in which I take very considerable interest, because for several years I have included it in the list with a definite purpose, namely, to thereby direct very strong attention to the element of pictorial decoration, which, while it is essential in all kinds of pictorial work, bulks more largely with such simple subjects as flowers and branches of trees. For quite a number of years the results were very disappointing, and had I been at all downhearted I would have dropped these subjects from my list; but I felt that if I persisted long enough I would arouse in my readers some conception of my aim, and once that had been attained, progress would be very rapid. My reward has now come, and I have very great pleasure in pointing to the decorative quality which is so strongly characteristic of both the winning pictures and those that have received special mention.

The judges made the following awards:

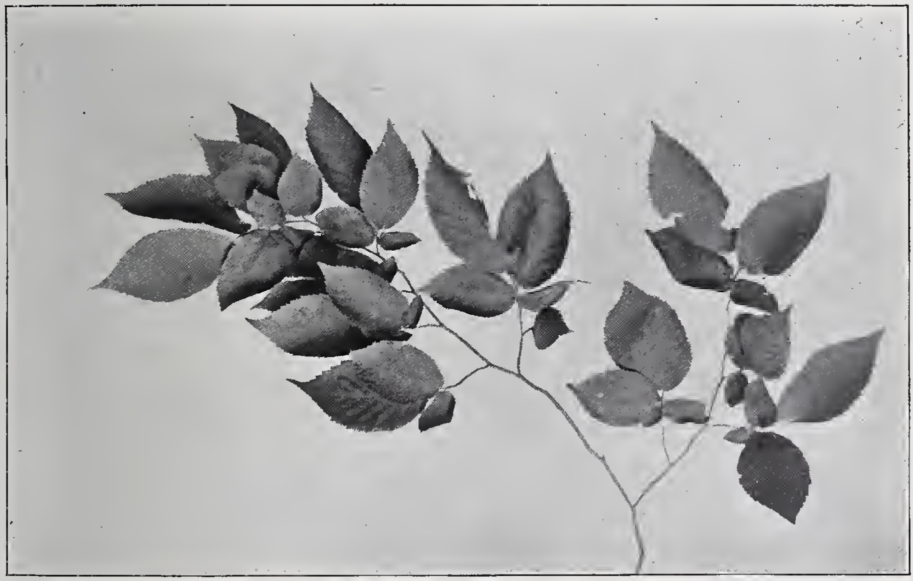
First prize — John Moser, Hayesville, Iowa.

Second prize — Sarah H. Ladd, care of Ladd & Tilton, Portland, Oregon.

Third prize — O. B. Hicks, 1151 Jackson boulevard, Chicago.

Special mention — George F. Manuel, Ira M. Neuman, Gus Horlin.

In all of the pictures reproduced the reader will observe how much of the success depends upon the very skilful arrangement of the sprays so that the given space of the picture is broken up by the main lines of the branch into unequal divisions and how the minor sprays again subdivide these with great variety. In some of the unsuccessful pictures the arrangement was really very good, but the photographer had to take second place on account of a lack



Negative by John Moser, Hayesville, Ohio.

FIRST PRIZE.

of appreciation of tone value and on account of the backgrounds not being suited in tone to the subject, either being too contrasty or not contrasty enough.

The season for outdoor work is fast drawing to a close, but those who have pictorial aspirations need not thereby feel that the time for work has gone by, because during the winter months they can, with great advantage, put in a few hours' thinking every week and may, the following season, save many weeks of work, for, from one point of view, the exposed plate that brings no permanent result is simply a record of so much time and energy wasted. The study of decorative arrangement ought to be undertaken seriously by every reader and the material for this lies at every one's door. All that is necessary is to make a collection of sprays that have fallen from trees, and these need not be much over a foot in length. A useful adjunct would be an ordinary drawing-board of suitable size on which could be pinned various tinted papers. The sprays by means of pins can be attached to the board and the photographs made. Special effort should be given to getting as much variety in the spacing as possible, and by photographing the same spray against different tints of paper quite an education in tone value will be acquired. In connection with this subject I would draw special attention to No. 4 of the Dime Series on the Elements of Pictorial Composition, which I have written for the use of beginners. Of this book the *Photo-Miniature* says, "It is the best on the subject, no matter the price." I will send it to any reader, post free, on receipt of 10 cents.

FUTURE COMPETITIONS.

Competition No. 54 — Snap-shot pictures. Closes October 31.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.
2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.
3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

A TEST FOR PHOTO-CHEMICAL IMPURITIES IN RAW PAPER.

One of the commonest of impurities in papers, the one at least that gives blue-printers most trouble, is hypo, and this salt or any similar reducing agent can be readily detected by taking advantage of its reaction with a ferric salt.

Make a solution of ferric chloride by adding one dram of the ordinary tincture of ferric chloride (the official tincture of twenty-five per cent is procurable in any drug store) to two ounces of water in which five grains of oxalic acid have been first dissolved.

Soak the suspected paper in this solution for five minutes, when, if any hypo or other reducing agent be present, ferrous oxalate (insoluble) will be formed in the paper.

Now rinse the paper in plain water — do this thoroughly — and then treat it with a very dilute solution of red prussiate of potash (ferricyanide of potassium) and if any ferrous salt be present, prussian blue will be promptly formed in the paper.

If no blue reaction occurs, you will know definitely that no hypo was present. R. M.

PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER X.

CONVENTIONAL COMPOSITION.

In going over my preceding articles I feel that I may not have been quite clear as well as a little misleading about what I have said about the S line. I have harped on this feature of composition so much that the reader may be led to think that it is the only line that has to do with the correct composition of a picture. I have said so little about the ordinary lines of perspective that really are the constructive lines of a picture that I should like to say a few more words in parting before I drop the subject.

As I said before, all lines that lead into a picture are good. Even severe, straight lines, when so placed have a certain constructive function; for instance, take an arrangement of single-point perspective, such as a room, with a tiled floor, and angular objects such as chairs and table, such as we find for the setting of my painting, "Galors Choosing his Armor." In this picture the lines of the floor gradually lead toward the center from either side, and the table on the right, with the bench on the left, follow the same law of perspective, and lead with the floor lines toward a common point of sight. These are all straight and nearly unbroken lines, yet they have a constructive value, and do not strike one as unpleasant. They all lead us into the picture, but otherwise are quite independent of the S line that sweeps through the two figures and the various accessories. The sweep of the S line is brought down into the very center of the picture by the armor on the floor in the foreground. The eye is led from here to the man and then the woman directly. These lines command the attention, but the perspective of the floor and table draws the eye in toward the S line from all sides, and is just as important. This S line is very beautiful and graceful, but nevertheless the ordinary straight

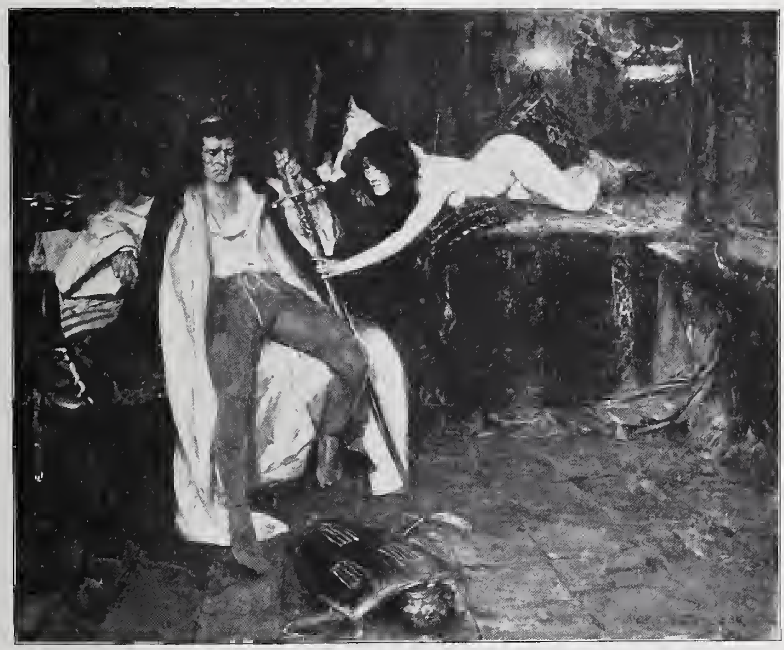


Fig. 24.

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* Copyright, 1902, by F. Dundas Todd.

lines of perspective must be there. One must not suppose that these straight lines are not needed. These simple lines of perspective, though softened in shadow, are extremely important. Without them the sweep of the group would seem flimsy and lack support.

It very often happens in an out-of-door composition these constructive lines are less severe and play more directly into the S line of the arrangement. However, I have always found that a judicious use of the straight line in a picture is a good thing. Of course, if thev are so long as to be monotonous they should be varied or broken in some such way as I have suggested in previous articles. A good severe line in your picture is like salt in your food; it gives a flavor to the richness of the curve by its contrast, as well as having a certain strong constructive value of its own.

I wish now to take up the subject of conventional composition, a kind of arrangement which, it seems to me, would be very practical in photography, and yet something which I have never seen tried.

A conventional composition is one in which like, or nearly like forms are placed on either side of a common center. This sort of treatment is sure to carry with it dignity, as well as being very decorative. As an experiment to show the decorative value of repeating a form on either side of a common center, take a piece of semi-absorbent paper and make an irregular ink blot. Crease the paper through or near the extreme edge of the ink blot, and fold it over so as to blot, thus repeating its form on the other side of the crease, and you will be surprised to see what decorative figures you will be able to get after a few experiments.

A haphazard shot that looks like an ink blot and nothing more, will often make under this treatment a very interesting and decorative figure.

Of course, this is conventional design only, but the principle is the same in figure compositions, and it illustrates very cleverly the decorative effect in arrangements of this sort. In pictorial compositions, treated in this way, the sides should not be exactly alike, but should be so varied as to introduce the S line into the group. The sides must be so near alike that we have the dignity and decorative value of such an arrangement.

Abbot Thayer has painted several pictures of this character. "Charity," "The Virgin" and "The Virgin Enthroned" are all constructed on a conventional plan, with a central figure and similar figures on either side. In "Charity" the central figure is a woman with outstretched arm, a dark background with trees spread out on either side, almost exactly alike; but the children are so arranged as to take off the stiffness and introduce the beautiful S line.

I publish with this issue Bougereau's painting in the Luxembourg Gallery, "The Afflicted Mother."

The severe conventionality of the picture setting and of the figure of the Virgin, gives an air of solemn dignity to the picture, as well as contrasting dramatically with the weeping mother and the lax and lifeless figure of the dead boy.

Benjamin Constant's picture, "At the Court of Justinian," in the Metropolitan Museum, New York, is handled in much the same way, only, of course, the figures are spread out on either side. This conventional treatment is very effective where solemnity or dignity is called for.

It is particularly effective in large compositions, such as Frietelle's "Conquerors," but, of course, anything on that elaborate scale would be impossible in photography.

As these papers draw to a close I am going to make bold to offer a suggestion to the photographer. In doing genre subjects with photography, one of the principal difficulties is the exaggerated or false perspective of the camera. For instance, it is impossible to place a hand much nearer the camera than the face without getting a false impression of its size. This must hamper the photographer a great deal, as it interferes materially with the grace and symmetry of a single figure, to say nothing of the almost insurmountable difficulty when several figures are used. I have talked with several photographers about this, and suggested some sort of modified telophotography as a possible solution of the difficulty. I offer this solution purely as a layman, for I do not pretend to know anything about the technical side of photographic art, my idea being simply to place the camera far enough away to take in the group as a whole, and at the same time bring them large on the plate.

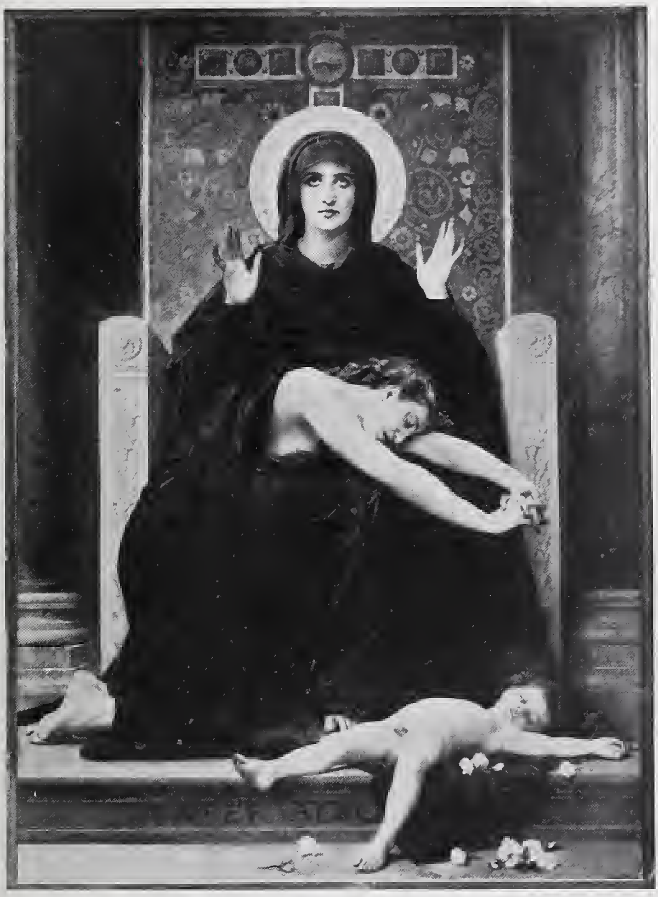


Fig. 25.

This, I feel sure, would correct the perspective, but whether it is practical or not I leave for others more experienced than I to decide.

I should be pleased to hear the opinion of any of my readers who have anything to offer. Before the photographer can do anything very elaborate with the camera this is one of the nuts he will have to crack.

WANTED BACK VOLUMES OF "THE PHOTO-BEACON."

To complete its files, the Library of Congress desires the first ten volumes of The Photo-Beacon. We are, unfortunately, unable to supply them and therefore appeal to our readers to help us out. Kindly let us know what you can spare and we will try to make up a complete set.

HYGIENE AND THE CAMERA.

As society progresses and the race develops, new problems are constantly presenting themselves on all sides, for consideration and solution. This is true of every walk in life which has for its ultimate end the furtherance of the upbuilding of humanity in any way; law, philanthropy, economics, education, are constantly meeting new and ever more intricate and perplexing enigmas to solve, which require the best thought that can be given them for their unraveling.

In no other branch of human investigation is this more marked than in the science of medicine. Society is all the time developing new disease conditions which puzzle and concern the practitioner not a little. One of the most obstinate of these is the tendency to a large and ever-increasing group of maladies familiarly known to the general public under the one inclusive head of nervous prostration.

The social life of the upper classes is such to-day that it produces no end of evil effects of this class. The strained and unnatural life which a great many society women especially lead, with its excitements and nervous strain, its unusual hours of sleep and rest, if any, and its constant round of social duties, very quickly weakens and undermines the strongest constitutions unless relief is found in some way from the overtaxing strain.

It is well nigh useless to preach moderation to these individuals, and especially the young. They will not heed or listen. Reason has no powers of persuasion with them. Conditions must be met as they are. They can not be altered. Relief must be afforded by facing the situation and combating with it.

One of the most powerful and effective antidotes to nervous derangement is healthful, hearty exercise in the open air. Association with nature is the most soothing balm for the shattered nervous system that there is. But the difficulty is in persuading people of the social class to seek the companionship of the woods and fields. The very character of the life they lead, with its intoxication of excitement and constant whirl of gayety, renders the calm and quiet of nature distasteful with them. They have no relish or liking for it. They turn from it exactly as a child from the medicine it does not fancy.

Consequently, it is not sufficient to inveigle these persons into an occasional excursion into the country. Mere bodily presence there does not necessarily profit anything. They must be present in spirit also. The mind must be attracted and interested in some form of wholesome diversion. For accomplishing this end there is nothing better than the camera. For one to become thoroughly interested in amateur photography under such conditions is indeed a good fortune, a blessing in disguise. To be sure there are many forms of outdoor sports, all of which are excellent stimulants to healthful life out of doors — golf, hunting, tennis, boating and so on, but they all have their unfavorable side, too, all being at times out of season and impracticable. But amateur photography is appropriate with all, as well as seasonable at all times of the year.

Winter, especially, is barren of attraction with many people, or at least seldom tempts them far from the beaten ways of town and city. But as a matter of fact, this is not only the season of most constant social obligations, but also the time at which practically all out-of-door sports are out of the question. In other words, it is the portion of the year, above every other, at which some inducement to be afield is needed.

The attractions of winter photography are for this reason especially acceptable. This particular branch of amateur work not only produces work of the most pleasing and striking character, but it also leads to wholesome and profitable results from a hygienic standpoint at a time when its services are most sadly needed.

Amateur photography deserves a large recognition as a promoter and preserver of health; as a wholesome pastime; as a worthy diversion. From this standpoint, as well as from its worth as a source of pleasure and a means of gratifying one's love for the esthetic and beautiful, it should be regarded with utmost favor and given every encouragement possible. In this manner alone it is to-day accomplishing much good and will continue to, more and more, as its value is recognized and its popularity increases.

De Soto, upon beholding the coast of Florida, with its profusion of flowers and luxuriant vegetation, thought surely that here he should find his long-sought fountain of perpetual youth; and though he was disappointed in his whimsical ambition, yet this certainly must be admitted to be true, that whatever draws one into closer association with nature and arouses a love in him for her beauty and grandeur, is for him, as far as anything can be, a perpetual source of youth-renewing health.

Alexander Vienor.

Negative by Dr. F. Detlefsen, Chicago.

ONION FIELD.

GOOD BUSINESS METHODS FOR PHOTOGRAPHERS.

A talk by C. M. Hayes, Detroit, at the National Convention.

The subject which President Edmondson assigned me, "Good Business Methods in Photography," I feel some diffidence in trying to elucidate. So much so that I feel it better for me to simply tramp over the ground learned by a long acquaintance with successful photographers and a careful study of their methods, and make my grounds surer and perhaps be of more solid instruction to younger photographers and those of less experience than myself. What I have to say is from a purely business standpoint.

We might consider it from two standpoints, but remember that my theme is "Good Business Methods," and it is only with the business end that I shall deal. I shall say nothing of the higher ideals that actuate the soulful artist or move the art-steeped and imbued member. We have but one way to look at the view that the world takes of us. The great world has but one way of expressing its approval, and that through the only standard of value it knows — the standard of the dollar. It neither coins the gasps of sentiment nor the throbs of emotion in money value, but stamps its approval, when it does stamp it at all, by the dollar mark. That is the test of good business — the only stamp and coinage of universal approval the world gives. With the heart-burnings of the disappointed idealist the term business has nothing to do. Business bears as close a relationship to ideality as the grimy, stolid engine-driver to the time-wasting, slothful dreamer.

Bear in mind that art ideals are left for the more learned and the more talented to talk to you about.

For convenience sake, we will classify the three grades of photographers. While there are many exceptions to these classifications that are successful, yet the field, I think you will agree with me, is very thoroughly covered in these three: namely, the factory owner, the impressionist, and the photographer.

The factory owner is a loud-voiced, advertising gentleman who toots his business horn indiscriminately and at all times. He is a man of reduced prices, club-rates everything that is clubable, sells tickets, always gives away something, makes groups of ministers, grocers, albums of secret societies, college and school work, invites theatrical and professional people and everybody else there is a chance of getting an order for a dozen pictures from on speculation. Help is hired for the amount of work and not the kind of work it can do. He is systematic, keen and sharp. As a rule he does no operating himself, but devotes his time to shrewd advertising, close buying and the careful superintending of his workmen, so that he is enabled to produce pictures at a rate which sells them anyway. Not a new style of picture, but a new scheme, coupled with a thousand older ones, helps to keep this gentleman alive. He makes money and legitimately so. Of course, I do not mean by this the leech or barnacle that attaches itself to the profession and lives by the gullibility of the stock dealer and the boarding-house keeper; but a man who looks at photography not as an art but as a business proposition, pure and simple.

The factory owner does not have a long business life, as factory owners are born every day and the new one has the lessons, the failures and successes of the older ones always before him to profit by and improve upon. Of this type the public and even the individual himself very soon tires. There is ever that same lack of an endeavor to excel in the better part, the same dead level of mediocrity and monotony, and too often their very thinly disguised presence of simple, grasping greed that reaches ever for quantity and not for quality. The always whirling grindstone of commercialism sharpens the features, but it wears and destroys the finer sensibilities. Even the most progressive devotee of this type grows tired of the dead level to which he apparently sinks and he finally gives up and drifts, or steers, to some other business where the monetary returns are greater, the promises more rich, in view if not in fulfilment, and the demands of the higher class less insistent.

Directly opposite to him is the impressionist. This gentleman is intriguing. While the ultimate business end is attained, yet the results are arrived at by a road as directly opposite to the factory owner as is the rising from the setting of the sun. Photographs, dozens and prices are words that are entirely absent from his vocabulary. Money sends a chill (I might in a low tone of voice say thrill) through him. Trade eccentricities and mannerisms are the principal parts of his make-up. He never gets down to taking photographs with the lens, but he creates portraits. He never likes or dislikes a photograph. It either appeals to him or it lacks soul. He is never making reductions, but is always "tucking it on" and telling of it.

He never gives away anything but an art lecture with every order. His studied familiarity with noted artists, his glibness with art terms, at once impresses the lay mind with a marked similarity between the impressionist's creations and those of the noted artists of the brush and pencil. The wife of the newly rich president of the water trust, after she has obtained a sitting with him, which is done only through a great deal of formality with which he shrewdly surrounds himself, knows that she has obtained something which the wife of her husband's clerk can not get, and she is doubly sure of it when the bill comes in. Now, the impressionist has made money, and legitimately, too. His clientèle demands mannerisms, dramatic art, formality and mysteriousness; he furnishes it.

Negative by Dr. F. Detlefsen, Chicago.

LA FANTASIE.

The chances are that the wife of the water-trust president would not go to the factory owner, and if she did, she would take the cheapest picture he made and then grumble about the price of an extra negative. She has the highest respect for the impressionist and he has made money out of her. Is it not a legitimate transaction?

The impressionist, by the very nature of things, is a narrow man; he is full of crotchets, and his very manner gives his patrons and friends the idea of affectation. Such characteristics do not wear well and soon become tiresome to all. He lacks the *suaviter in modo* of the factory owner and his life of popularity, if such it can be called, is even more brief and uncertain than that of his brother first mentioned. It is because his lack is the greater of the two.

The photographer belongs to a little broader class of man. He sees beyond his own individuality far enough to know that the whole personnel of the fraternity at large helps to make or mar his own standing in the community in which he lives. Like old dog Tray, he sometimes finds himself a victim of fellowship. I believe that the Photographers' Association of America, and its tributaries, the State Association, and their influences have done more to elevate photographers, in their business standing, than anything else in the past quarter of a century. I do not wish to infer that there were not good, responsible men in the business twenty-five years ago, but I do contend that photographers, as a class, are more highly respected and in better standing in the community to-day than they were at that period.

The day of the fly-by-night and the irresponsible, never-pay-for-anything is fast going, if not already past; that class has been weeded out and better pictures are being made. The broad-gauge gentleman, whom I wish to typify as the photographer, is the man who does not travel the beaten path and who does not crystallize. He thinks for himself and yet is wise enough to realize that the thoughts of others are to be utilized for what they are worth; the man who sees that the microscopic definition is no longer desired or desirable in a good photograph portrait. He sees that spotted photographs and all sameness in posing and styles wears him out of favor and wearies him of his own labor. He realizes that each individual, who selects him as his photographer and pays him the price demanded, must have the best of attention and requires an individuality about the work which will bring out the individuality of the subject. He knows that if he exhibits and feels a natural pride in his profession as a photographer — and the name of his product as photographer — that he has not laid himself or his profession open to criticism in being trivial or undignified.

Such is the photographer, and he is different from the other two classes. In a word, the factory owner and the impressionist resemble a man trying to run a locomotive on one of the rails of a railroad track, where both rails are essential. The photographer, combining the merit of commercialism and the pride of art, has both rails upon which to clearly run his train of progress. Seeing the mistakes of commission of the factory owner and the errors of omission of the impressionist, he can and will avoid alike the Scylla of the one and the Charybdis of the other; and by seizing the best points of each and improving on them he adds profit to his business and standing to his profession. He is out of the rut, foot-free and always advancing along the lines of the best thought. New patrons join the old and he, too, succeeds, and that legitimately.

These are three distinct classes of photographers which I have typified, and any one of them may be successful. I do not pretend to say which is the best, as I have observed only through my own eyes and compared them by the narrow confines of my experiences. I do not believe that I will be considered presumptuous (when the years I have spent in the work and the acquaintanceship which I have formed is considered) if I take the liberty of classifying thus our successful portrait photography. If there are any points herein which the younger and inexperienced members have not known, I am more than pleased with my effort. Much more could be said of the non-mysterious working of these craftsmen and as to the artistic value of their product, but that I shall leave to some more talented member to explain.

Two unalterable principles we must adhere to, namely, that all advertising and all sharp scheming is but temporary in success unless backed by solid, clean, artistic work, systematically handled, with prices graded to the amount of work done. Photography, more and more, is partaking of the individuality of the photographer, and in consequence he must store his faculties and not abuse them by being overly anxious for quantity of work. When he reaches the point where his labors are becoming too arduous, his prices should increase and keep increasing until that point is reached where he can go to his labors with that bright mentality which comes from rested physical health; then the thought, the power and all that is best in him artistically is bound to appear, and with that appearance in his work comes the approbation and applause of the public as shown by their patronage and their money. A tired, hurried mind never produced anything but mediocrity, or worse.

I have to thank Mr. Edmondson for the twenty minutes he assigned me.

OUT OF THE MAIL BAG.

Mobile, Ala., April 17, 1902.

F. Dundas Todd, Esq., Chicago, Ill.:

My Dear Mr. Todd,— My copy of The Photo-Beacon came to hand tonight, and after I had cleared my desk of copy I took a peep at it, and am so pleased with the beautiful reproductions of my flower photographs that I could not refrain from letting you know about it at the earliest opportunity. I hope the article will be the means of bringing out a good deal more on the subject, so that we may all be inspired and helped to better work. Please accept my thanks.

I also read your article, "Visualizing," and to me these leaders of yours are as good as sermons. This one strikes me close at home, for photography has been the cord that has bound myself and son together in a companionship these past four or five years that has brought out all the good qualities of both of us.

Negative by Gust Horlin, Chicago, Ill.

It was Christmas, 1896, that I yielded to the importunities of my son, after fighting the idea for several years for the reason that I thought amateur photography would bankrupt me, and bought him a camera, or at least gave him the money to buy one. He began with an Eastman Bullet, which he soon grew out of. At first the young fellow groped in darkness and met with little success. Neither of us knew a thing about it, and had been allured — at least he had — by the "You press the button, we do the rest" fallacy. My ancestors were Scotch, and the dogged determination with which that boy hung on to that camera after repeated failures, won my parental admiration. Through the medium of the kodak we formed the acquaintance of a professional photographer, who developed the first few rolls of film. Then the young man announced he was going to do it all himself, and his troubles began. I thought when I consented to his buying the kodak that his fever would last about two months, and when at the end of that time he found he could not make pictures like a professional, he would get disgusted and quit. I reckoned without my host. Each failure seemed to give him renewed energy, and for footing the bill I was allowed to sit in the stuffy darkroom and watch him try to make a negative. When he failed I felt sorry for him and gave him words of encouragement, for that was all I could give him then, as I had no knowledge of photography. Finally success began to dawn. I concluded that some books and a few magazines would help out such gropers as my son, and so I invested. I did the bulk of the reading and some awful hard thinking at that time trying to understand it all. A Poco plate camera succeeded the kodak, and with the ground glass the work began to improve. Then after two or three years of reading, looking on and helping as best I could, I became inoculated, and as I studied and the young man practiced, the beauties of the science opened out to us. And as those beauties developed, so did the beauties of that companionship into which photography had drawn father and son unfold, till now it is remarked upon by those who know us as a most beautiful thing.

The little $10 kodak was the best investment I ever made. Its use inspired the boy with a desire to know about things which had never before unfolded to him their beauties. He became interested in chemistry, optics and other collateral sciences. A year after his ownership of a camera he entered a competitive examination for a scholarship at Vanderbilt University, the leading university of the South, won it, and now his four-year course is drawing to a close and he will be graduated from the engineering department in June at the age of twenty-three years.

For me photography has been a great recreation whenever I have had the time to give to it. I have gradually fitted up a den and darkroom at home, and find time there to give an hour or two to it once in a while. I never expect to become a salonist, because I have not the time that the making of salon pictures requires. However, I hope to become a good technician, and if life lasts long enough, I may learn something of art, though I have already unconsciously imbibed a great deal.

I hope I have not bored you. You seem to me to be so interested in mankind that I could not resist the temptation to tell you what the camera has done for us. Among our friends we are jocularly known as "the firm." The boy is the "senior" and I am the "junior" member. I hope some day I may meet you; I know I would like you, because I like your straightforward way of going at things.

I judge that you love to give pleasure to others and let a little sunshine in to those lives where shadows fall most heavily. That is my creed, and that is why I know I would like you.

When I get some more experience with flowers I will write you again and send you some more pictures.

Thank you very much for your kindness. Sincerely yours,

RICHARD HINES, JR.

Mr. F. Dundas Todd:

DEAR SIR,— I am always interested in your editorials and particularly with that treating of "Visualizing," for the reason that I am just the one your sermon applies to.

When a boy I spent many years of my life on an estate opposite the grounds of Bothwell Castle, and being deprived of all playmates other than my sisters, I was obliged to find comfort in some way of my own devising. So I wandered through the woods and ruins of that romantic region, my mind imbued with thoughts beyond my years. It reverted to the days of Bannockburn, and peopled my surroundings with warriors and the clash of arms, and I spent many a lonely hour sitting in the ruins of the Priory picturing in my mind's eye the monks and other religious functionaries of the olden time moving before me. I was a happy boy in my lonesome surroundings — a poet, although not aware of the fact. But with such a self-contained temperament come extreme sensitiveness, and herein is where we suffer. I have always pitied artists condemned to listen to harsh criticism from the incompetent, for there are none so ready to condemn as those ignorant of art principles.

Since my illness I have been grateful that I am as I am — a visualizer, for it has been a great comfort to me to bring before my eyes, as it were, scenes and incidents long since removed from me. As I told you before, I was by profession a designer, and when I went to rest at night, many a time, when all was quiet, my mind would conjure beautiful combinations which I would work out on paper next day.

And in my present condition I practically live in a world of my own. I think thoughts different from those by whom I am surrounded. "I have a soul above the buttons," so can not enter into the vapid conversation all too common among those who would visit me. So I live my lonely life in my own way, sad when I see so much injustice in the world, so many undeserving persons gaining award while the gentle, noble spirits who prefer to live "softly," as our President calls it, are driven to the wall and ridiculed as weaklings. The race is for material things. Even the Church is tainted with it, and all too often takes the side of the strong against the weak.

I can not subscribe to all your correspondent, R. G. P., says, but I can sympathize with him deeply. Man can not *live* by bread alone. Many manage to *exist* and go through life by its aid, but

Negative by O. B. Hicks, Chicago.

THIRD PRIZE.

how much they have missed. The man who will not grow a flower because he sees no profit in it, denies himself other pleasures equally easy of attainment.

So, Mr. Todd, although from my confirmed invalidism I have little to live for, judged from the standpoint of the world, I am not unhappy. I have my own little world and I can to a great extent eliminate what is unpleasant, other than pain of the body, which is my inseparable companion. I have communion through books and magazines with the choice spirits of the past and present, without the inconvenience of their presence in the body. And I can project on the tablets of my brain scenes far removed, such as I can never look upon in the flesh again.

I had a strange experience some time ago. My sickness was such that for a week my mind was unbalanced, and among other hallucinations I thought I was in a French village where there were a great many artists studying and living in the rude cottages. I saw the most beautiful pictures of every description, but all in sepia — the softest effects imaginable. The artists were both male and female, and in the beautiful twilight they sat around and talked art and music. It was an ideal life — Arcadia — but I seemed singular, a discordant note, not capable of enjoyment and looked on with suspicion by the people around me. I saw these things as plain as I saw my own family mixing with them. I could look out of my room and see the beautiful landscape full of the atmosphere of eventide. Here is the singular part of it all: Lately I have been reading of French life — peasant life more particularly — in back numbers of the *Century* magazine, and have had many illustrations passed before my eyes. But it was not new to me. I was quite familiar with both the people and the country. What I had seen in my illness I had never looked on before in the flesh or otherwise, and here in the magazine I saw what I had seen in my unbalanced state of mind, wherein I saw the most beautiful combinations that the mind could conceive, the forms and faces of the best in nature, with but one discordant, sad note, as in the Grove of Daphne, in Ben Hur — lawless love.

J. T.

[A word of explanation may lend additional interest to the above letter. Seven or eight years ago the writer had an unfortunate accident which developed a very serious nervous ailment, and for two years he lay helpless in a room from which every ray of light was barred and with his ears plugged with cotton, so as to prevent the least sound reaching him. Occasionally his wife would slip into the room and stay with him, at the most for a few moments, to see how he was and then slip out. During all this weary time his sole occupation consisted in conjuring up the past, and of him it might truly be said, "My mind to me a kingdom is."— ED.]

ROCHESTER, N. Y., Sept. 8, 1902.

The Photo-Beacon, 409 Security building, Chicago, Illinois:

GENTLEMEN,—We are pleased to announce the selection of Mr. Rudolph Eickemeyer, New York; Mr. C. Yarnall Abbott, Philadelphia, and Mr. William B. Dyer, of Chicago, as judges of our Quarter Century Photographic Competition. The high standing of these gentlemen as photographers, and the fact that they have devoted so much time to the critical study of photographs, will make it especially desirable to have photographs passed upon by them, as well as insuring absolute impartiality in judging. We will be greatly obliged if you would make mention of these facts in the next issue of your publication, in order that our many friends who have become interested in the competition may be made aware of the judges who will pass upon their work at the earliest possible moment.

Yours truly,
PUBLICATION DEPARTMENT,
BAUSCH & LOMB OPTICAL COMPANY.

Mr. Todd:

DEAR SIR,—We suppose you little imagined that your article on "Visualizing" would act like a bombshell and cause the commotion it did. We read the article with considerable interest, but the remarks by "R. G. P." on the subject in the June number of The Photo-Beacon appealed to us even more, and "P" has our hearty sympathy. Yet we can not quite agree with the writer as to the type referred to being made up of such an unhappy class of mortals, but rather think it is a matter of being a trifle oversensitive.

Personally, I hold that this type is really made up of the happiest of beings on earth, at least at times, who will get more of the real good out of life than any one else. What does it matter if the multitude does not applaud, the money they are after is by no means all there is to life, and their hoardings are only to gloat over for a few short years at best, when they will have to leave them for some one else to enjoy or fight over.

It is our type who understand how to gather honey from the flowers along life's pathway, day by day; we are busy learning the lessons of beauty, a joy none the less real and lasting even if understood by the few only; but, best of all, we are the ones building up our character along noble and sublime lines, and character is, after all, the only thing we can call our own, that which we will take with us beyond the grave.

As to our friend's remarks on composition, etc., I can heartily say "amen." Rules on composition are worth knowing, but there is much beyond of more value. By all means strive for feeling and spirituality in your work. R.

Negative by Dr. F. Detlefsen, Chicago.

A DREAM OF FAIRYLAND.

The Photo-Beacon is my best teacher. A. Murawsky.

I am perfectly delighted with The Photo-Beacon. I sent for sample copies of three photo papers at the same time, but there are none that can compare with your magazine.

Edith Morgan.

ART AS APPLIED TO PHOTOGRAPHY.

William M. Hunt was the greatest exponent of broad effects in painting we have had in America, and therefore while he lived was the butt of the class of artists who paint with microscopic exactness.

However much we may differ from his deductions, his ability and genius in his special line of human endeavor must be admitted. When his pictures were sold after his death his most elementary sketches brought high prices, which showed, at least, appreciation all too rare in these latter days of commercialism.

It has truly been said perfect exactness is not art, no more is a confused jumble of indefiniteness to be commended, whether it be in painting or photography. There is a middle ground on which all may meet.

Artists may lay on their medium with bold, vigorous strokes, but they never paint out of focus, such as to be seen in some of the exhibition photographs. It seems to me such people miss the point they aim for, and yet it would be useless to try to show them just in what particulars they err. Given a rough, sketchy picture from a master hand and one produced with infinite care showing painful elaboration of detail, one can make no mistake in choosing the former.

Some persons there are who never get beyond the line engraving or chromo stage of artistic effect and appreciation. To such the wiry and microscopic photograph is a masterpiece. It is a waste of time for lovers of crisp, vigorous and virile art to reason with them. We speak to them in a language that is foreign, and may only get abuse and ridicule for our pains. The satisfying, velvety beauty of an etching or the atmospheric perfection of Corot's landscapes is lost upon them. To such the camera can not lie, although it sees with but one eye, while we have two. It seems to me that however desirable it may be to have detail in a small picture to be held in the hand and viewed at short range, the larger pictures hung on the wall, to be viewed at a distance, are the better for being treated broadly, depending more on the disposition of the masses of light and shade for the effectiveness than on detail.

Neg. by Geo. F. Mannel, San Francisco, Cal.

The picture that illustrates this article is a needle-hole reproduction of one of Hunt's latest paintings. It is a portrait of himself, and ought to gladden the heart of the fuzzygraphic school of photographers. Observe the cotton-wool effect of the eyes. Hunt knew how to get depth by painting a lighter color over a darker one. To get the best effect of this picture it should be viewed from a distance.

Mr. Hunt instructed many of our best artists, and his teachings are as applicable to photography as to painting. I have, therefore, thought it would be of interest to readers of The Photo-Beacon to have some of his remarks placed before them. These I have selected from a book that is now out of print and not accessible to the multitude.

Hunt differed in opinion from many of the authorities as regards placing the greatest light against the greatest dark. He believed more in gradation than in contrast. Alas for the button-pusher, when measured by this rule.

WILLIAM M. HUNT ON ART.

"The nearest thing to nature is black and white. What green is to landscape red is to flesh. Harmony is the great thing to strive for, and one is surer in black and white than any other combination. Suggestion is better than color itself."

"If the effect is harmonious it makes no difference what key we paint in, but as in music, one must begin and end on the same key."

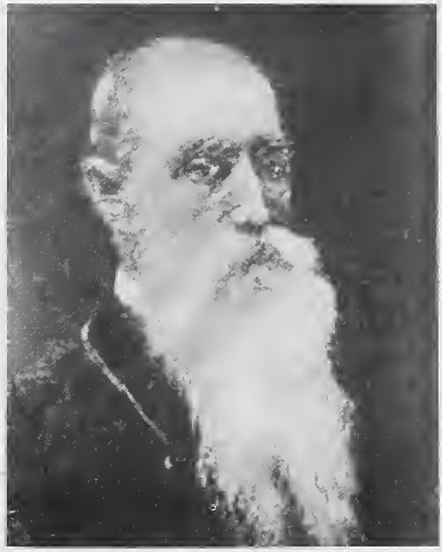
"Imagination and suggestion are everything in art. Drawing compared with painting is more refined and therefore purer art."

"Light in the sky or elsewhere is not so well produced by putting dark against light as by a gradation from dark toward light."

"Light radiates, and one must try to produce the appearance of radiation to get the highest effect, no matter if the picture be in a low key, neither if the gradation is finely done need the dark be very dark nor the light very light."

"Atmosphere and light are the great things to work for in landscape. Corot and Millet painted in a way that looks to the uninitiated both hurried and sketchy, but they worked patiently over their paintings, purposely covering the appearance of hard work. This gives an attraction to their work not otherwise obtainable. We all know how long it took these artists to reach their high position, owing to the slow process of bringing the public up to the point of realizing what is called unfinished work, appeared finished to the painters, and just what they desired them to be."

"What is the charm of Corot's painting? Why so poetic? Simply because it is not what some people call finished painting. There is room for imagination in it. Finish up, as they call it, make everything stand out clear and distinct, and the charm is gone. Anybody can then see all there is in it. A minute is enough for a picture of that sort, and one never wants to look at it again. They call Corot's work sketchy, and think he does them quickly. Far from it; he works hard on them. How beautiful his work is; so vague and indistinct. It is harder to make it thus than to have all stand out clear and distinct."


WILLIAM M. HUNT.

"He realizes the worth of mystery of hiding the appearance of hard work."

"Dare to leave the province of imitation to the parrot and monkey. Let us express the little we have learned, the ideas and emotions in which the mind, perceptions and heart of the artist abound."

"When a person, after looking at your work, remarks that he never saw this or that effect in nature, remember that this may be true, and, moreover, had he seen it, it might have said nothing to him. Why feel hurt by the criticisms of those for whose opinions, were they for sale, we would not give a copper for."

JAMES THOMSON.

MY EXPERIMENTS.

CHAPTER X.

SENSITIZING PLATINUM PAPER.

The Whatman drawing papers have been freely recommended for platinotype work. Writers on the subject seem to have formed a Whatman habit. Writing on the subject of platinotype preparation may be likened to a sort of function or ceremony in which a mention of Whatman paper is part of the ritual, its introduction in a commanding position being regarded as a watermark, that shall lend an air of verisimilitude to the context.

Whatman paper is a lovely base for wash drawings and for crayon or soft carbon pencil sketches, and it is probable that the resemblance in effect between a platinotype and a carbon impress or india ink drawing on that paper is what suggested it as a support for the platinum print.

When I begun my platinotype experiments I was hampered by the preconceived notion that it was *aut* Whatman *aut nullus* for the Saxe and Rives, and other European papers were not available, and "any other suitable paper" was too indefinite, wherefore I bought me sundry sheets of cold-pressed, because that was the sort generally prescribed, and sundry other sheets of hot-pressed on general principles.

There was an unexpected fund of latent vitality in the former that made itself manifest by a stretching out and bellying up, and other misconduct of the paper when the sensitizer was applied to it. I had a sheet of it pinned to a drawing-board, with a thumb-tack in each corner, and no sooner had the sensitizer been well applied than it started to give an imitation of a rolling prairie — converted itself into a sort of a relief model of a treeless landscape undergoing an earthquake disturbance, and, being hampered somewhat in its budding expansion by the thumb-tacks, it broke away from them, or rather, that being more convenient, it drew them out of the board and took them along with it.

It was a spasmodic effort, though, and when exhaustion set in I restretched it and, driving the tacks in firmly in fresh places, set it up to dry face to face with and about three inches from a good hot steam radiator.

It dried there in about ten minutes or less, and while drying, decided that expansion was not what it had been cracked up to be, and came back as near to normal size as it could manage — tearing itself loose from the two lower tacks while doing so.

All papers that I have tried will stretch more or less when dampened, but the cold-pressed Whatman is by all odds the most competent stretcher in the lot, and has no compensating advantages, besides which it is nearly soluble, meaning by which that when it has been printed and then put to soak in the various finishing baths it gets so very soft that it can hardly be handled, held up by a corner, for instance, after it has been in water a few minutes, it will tear by its own weight, augmented by that of the contained moisture, and, if allowed to soak for any considerable length of time, it will become quite pulpy.

The hot-pressed paper is much less faulty in this respect than the cold-pressed, and a make of paper known to dealers in artists' materials as "American" drawing paper is infinitely better than either of them, for it will stand very protracted soaking without sustaining injury; it does not stretch to anything like the same extent under the influence of the sensitizer; it yields better results with less preliminary sizing, and its surface is as satisfactory in the finished print as that of any other paper except the particular stock that is manufactured for Willis & Clement, John Bradley and other makers of commercial platinotype papers, and which is not readily obtainable in this country — not, at least, by amateurs.

There are two reasons (at least two) why paper must be treated to a coat of sizing before it is sensitized. One of them obtains with papers of the Whatman class, which are so soft and porous or absorbent that unless their assimilative function be first satisfied with a liberal dose of sizing they will draw the sensitizer right into their "innards," and the image that results from subsequent exposure and development will be "sunken in" in appearance, flat and uninteresting. With these papers a sizing must be supplied to keep the print out on the surface, but with such a paper as the American, mentioned above, or with plain Rives or similar plain stock —papers that have been made as nearly waterproof as possible — the sizing is needed to keep the print from falling off into the bath.

Negative by Sara W. Holm, Sedalia, Mo.

In one case you size the paper to prevent the print from sinking into it, and in the other to prevent it from falling off. In either and any event a sizing is required.

Various arrow-root formulæ have been printed, and an occasional gelatin formula may be found among the directions for the preliminary sizing, but I have not had specially good results with any of them. A combination of gelatin with gum tragacanth, such as the following, has done better work for me, and I dare say will do as well in other hands as in mine. It is simple; it is easily made, and it will not spoil; moreover, it is a good mountant.

Soak thirty grains each of gum tragacanth and gelatin in six ounces of cold water for eight hours, and then, on a water bath, warm it to about 150° Fahr. Let it remain at this temperature for five minutes, and then, with constant stirring, add two ounces of water in which twenty grains of bisulphate of quinine and ten grains of common alum have been dissolved.

Strain it through muslin and bottle it.

Dampen the paper with water and allow it to become surface dry before applying the above sizing, and you will experience no difficulty in getting an even coating. Apply it with a flat bristle brush, crossing the strokes so as to obtain evenness (using as *little pressure* as possible), and then hang it up by the corners to dry spontaneously.

Attach the sized paper to a clean drawing-board, pinning it at each corner with thumb-tacks, and proceed with the sensitizing in the following manner:

First moisten your brush in the sensitizer and then pour a dram of the preparation described in the last article on the center of the sheet that is to be operated on (and in giving this direction as to quantity I have it in mind that your sheet is 14 by 17), and spread it out evenly, crossing the strokes, as in sizing, and likewise avoiding undue pressure. Allow it to get surface dry spontaneously — which will be indicated by its surface losing the glazed appearance that the fresh sensitizer imparted to it— and then finish the drying by artificial heat. If no better means offers, shove it, drawing-board and all, into a warm oven, removing it only when it feels stiff and crackly.

This quick and thorough drying after the surface moisture has evaporated is absolutely essential, and, moreover, the preliminary drying must not take longer than from five to ten minutes at the outside; if it seems likely that it is going to take longer assist the process by fanning it.

Another thing — the brush with which the sensitizer is applied must contain no metal in its make-up, for most free metals will promptly reduce platinum salts — use a rubber-set camel's-hair brush.

If you can not readily obtain the "American" drawing paper get any first-class ledger paper that you can find in preference to Whatman.

If preserved in a moisture-proof receptacle, provided with calcium chlorid, namely, if preserved with the same precautions as are observed with the commercial platinotype papers, this paper will remain in good condition for several months.

It gives a clearly visible image in the printing-frame, but, unlike other platinum papers, its color is a reddish-brown instead of the usual bluish tint.

Print until the half-tones are fully visible, and then develop it by immersing it in water — plain water — warmed to 120° Fahr.

After development, which should be complete within two minutes, remove it and rinse it through at least six changes of cold water.

If you labor under any doubts as to the thoroughness of this fixation, there can be no objection to your subjecting it to the ordinary hydrochloric acid fixing bath and thereby satisfying yourself.

No platinum sensitizing solution can be preserved after it has been mixed, and the one that I have described is no marked exception to the rule; it must be prepared only as wanted for use, and it must be used within one hour (a half-hour makes a safer limit) of its preparation. Ralph Martin.

I wish you might publish something from a traveling photographer, giving his experience in that line of work.

Yours respectfully,
C. D. Heacock.

Perhaps some reader can help in this matter.

Mr. Guy Cubley has opened an office at 64 Wabash avenue, Chicago, where he is handling a line of specialties and photographic novelties as manufacturers' agent.

THE DEVELOPER AND ITS CONSTITUENTS.*

BY A. K. BOURSAULT.

CHAPTER VI.

SOLUTIONS.

The name solution is applied to an intimate mixture of a solid or gaseous body with a liquid, the resulting compound being a liquid of homeogenous nature.

The solution may be either physical or chemical; to wit, physical when the solid and liquid molecules simply juxtapose themselves. Such is, for instance, a solution of chlorid of sodium. By simple evaporation the water is got rid of and the sodium chlorid remains in the beaker. A chemical solution, on the contrary, is one where the atoms of both the liquid and solid or gaseous substances combine intimately together. This is the case with most solutions.

As the reader knows, the degree to which a body is soluble in a liquid varies greatly, according to several factors, among the most important being: First, the nature of the liquid in which that body is dissolved — water, alcohol, ether, etc. (Sodium carbonate, which is very soluble in water, is insoluble in alcohol.) Second, the presence in the liquid of certain other substances which may help or promote solution. Glycin, for instance, is nearly insoluble in pure water, and yet it dissolves readily if there be sodium sulphite or carbonate

Negative by Geo. F. Mannel, San Francisco, Cal.

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* Copyright, 1902, by F. Dundas Todd.

of potassium present. Third, the temperature at which the solution is effected; thus the solubility of gallic acid in cold water is as low as 1:100, whereas in boiling water it will dissolve in the proportion of 1:3. Generally speaking of those solid bodies that are commonly used by the photographer, we might say that their solubility is proportional to the increase of temperature of the liquid in which they are dissolved, which, for photographic purposes, is almost exclusively water.

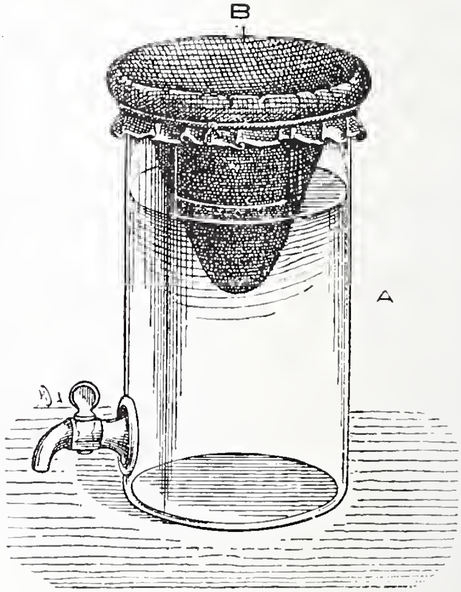
Given a certain temperature, however, a certain liquid, say water, and a certain substance, say a salt, we soon reach a point where no further dissolution will take place. The solution is then said to be saturated, that is, it contains the maximum amount of the salt that the water will dissolve under existing circumstances. This saturation is very variable, as we have seen, and it is interesting to the photographer to know how much of the more usual salts water will hold in solution at the average temperature (somewhere around 65° Fahr). of the darkroom.

The following figures are close enough approximation for all photographic purposes:

Silver nitrate	1	part in	1	part	water
Potassium dichromate	1	“	10	“	“
“ bromide	1	“	1.55	“	“
“ carbonate	1	“	0.9	“	“
“ oxalate	1	“	3	“	“
Citric acid	1	“	0.75	“	“
Potash alum	1	“	10.5	“	“
Chrome “	1	“	10	“	“
Eikonogen	1	“	40	“	“
Metol	1	“	v. s.		
Hydroquinon	1	“	16		
Pyrogallic acid	1	“	4	“	“
Sodium carb. cryst	1	“	2.0	“	“
“ “ anhydrous	1	“	3.85	“	“
“ “ sulphite	1	“	4.0	“	“
Uranium nitrate	1	“	0.5		
Mercuric chlorid	1	“	16	“	“

Certain substances are very conveniently kept in saturated solutions, like hyposulphite of soda, potassium oxalate, etc. The advantages offered in keeping them thus at hand are numerous, for it saves the trouble of weighing out chemicals. The solutions keep in that concentrated form very much longer than in a more dilute state; they are always at hand and can be easily brought to any state of dilution required.

The simplest way of preparing a saturated solution, say of hyposulphite of soda, for instance, is to put in a gallon jar five or six pounds of hypo; pour over it hot water until the jar is nearly full, then shake several times at a few minutes' interval. All the hypo will not dissolve, and the remnant of the salt will settle to the bottom of the jar. After having used up, say half of its contents, add some more hypo and some more boiling water and so on *ad infinitum,* being careful to have always some hypo crystals present at the bottom of the bottle to insure perfect saturation. Give also a shake to the bottle before taking out the amount of solution required for use, waiting but a few seconds to let possible impurities and small crystals settle to the bottom. A far more efficient way, however, to have a permanent saturated solution at hand is the following, Fig. 1, which explains itself. Take a glass jar with a glass tap A; fix on top a sack B, made of two thicknesses of cheesecloth, in which is placed the hypo; pour hot water over it and keep the water always at the same level, and an abundance of hypo inside the sack, by additions of one or the other, as required. Your solution will be always perfectly saturated and clear, all impurities settling to the bottom. Keep the top covered. The whole



arrangement need not be expensive. An earthen ice-water jar will do nicely, a six-gallon jar with a wooden tap costing about $3. The only objection that can be made against this plan is that the exact amount of the salt in solution is liable to change according to the temperature. For certain chemicals, as used in photography (hypo is a case in point) this change is immaterial. For others, however, it is very important that the photographer know exactly how many grains of a given chemical his solution contains. It is then advisable to prepare solutions which will, in a given volume of liquid, contain exactly a given number of grains of the chemical dissolved. There are two ways of preparing such a solution, by weight or by hydrometer test. Both systems have their partisans; both are equally good or bad, according to the more or less care bestowed on the process by the operator. Both, when handled by an intelligent man, are equally conducive to good results. As in the writer's mind, however, the former systems offer certain advantages, we shall consider it first, this being the purpose of the next chapter.

HINTS ON PORTRAITURE: OR POINTS TO REMEMBER.

When taking a portrait out of doors see that your sitter is posed in front of a solid background; a wall, trees, or the like. In no case have part of the figure above the sky line; halation will be the result, the shadows lose pluck, and what might otherwise have been a good portrait will be ruined.

You will never get a pleasing result, unless for special purposes, when the light falls behind your sitter.

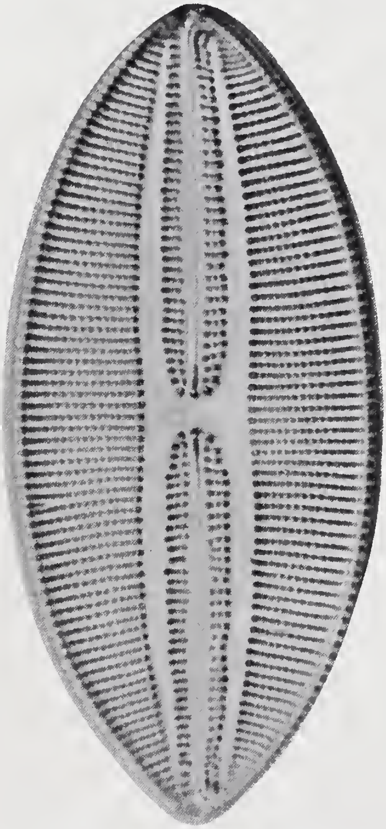
The most pleasing results are obtained when the sitter is lighted from one side and the face turned to the shadow side.

Avoid harsh contrasts, and do not, if possible, attempt portraits in sunlight.

Do not be content merely telling your friend to pose in such and such a place; study the light and shade, and move your sitter from one place to another until you are satisfied no better result can be obtained.

Remember that your reputation, and, possibly, a valued friendship are at stake.

In posing, do not aim at the fantastic, or endeavor to startle the world with something new. Simplicity is most to be commended.



Neg. by Rev. A. M. Kirsch, Notre Dame, Ind.

A DIATOM.

Do not violate the laws of nature by posing your sitter in an absurd position.

Avoid stiffness. Most people look stiff when they face a camera, but this may be overcome by paying attention to details, and endeavoring to make your sitter feel natural.

Before removing the cap, a very important point is to see that the expression is all that can be desired.

You can not take too much care with draperies. If you are posing a gent with his knees crossed, see that his trousers do not resemble a corkscrew; or if a lady sitting, see that the dress is full and carefully draped to one side — the side nearest the camera usually. Let all the folds be natural.

Hands and arms are always in the way. Never have the elbows sticking out like distress signals, and never have the hands, particularly ladies' hands, nearer to the camera than the figure.

It is best, whenever possible, to have the hands occupied — never clasped together. Do not bring them into prominence.

See that the fingers are not spread out like claws, or the fist clenched like a vise. It is best, in most cases, to have the fingers slightly closed, gradually relaxing from the little finger until the forefinger is just bent, and no more.

Be painstaking, but do not let your sitter know it.

Do not use up too much time and tire your sitter.

See that you do not aim at too great effect, and only succeed in producing something wooden.

Interest yourself in your work, and you are sure to succeed.

Have the accessories always in keeping. Never introduce stuffed chairs against a foliage background; when a wall forms the background it may be permissible, but against foliage it is absurd.

Introduce no needless accessories.

If you are taking a group, bear in mind that the triangular form gives the most satisfaction, i. e., the tallest in the center, the shortest at the sides.

Do not crowd too close, but show as much as possible of each figure. Above all, make sure that you can see every head distinctly on the focusing screen.

Never forget that it is your sitter you have to please. At the same time, while humoring your sitter, do not carry out every ridiculous suggestion offered.

Keep cool; it is fatal to allow your nerves to get the better of you. Go about the business as though you had been at it all your days. Have confidence in yourself. Work according to the best recognized rules, and there is no reason why you should not produce work that will be a credit to yourself, and, at the same time, a pleasure to your friends.— *Photographic Chronicle.*

BACKING PLATES.

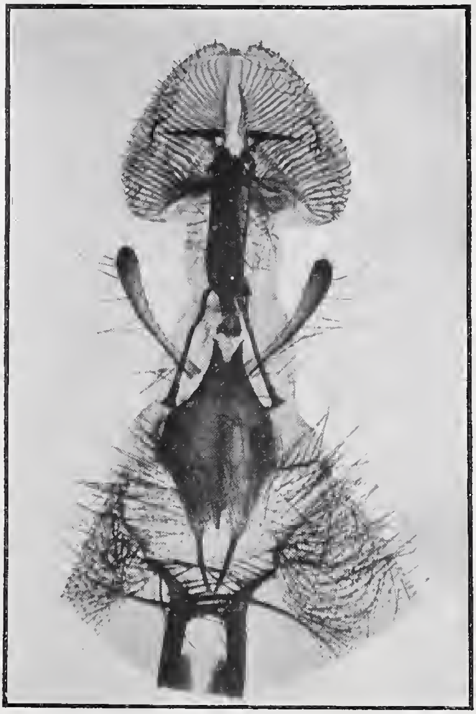
In the March number of THE PHOTO-BEACON, page 75, is an article by H. L. Maloney on backing plates. I do not quite agree with him about this way of backing being as good as any other way. I like to experiment occasionally, so tried his way, but on a clear piece of glass, and found it impossible to get the paper in so close a contact with the glass that it would be a dead black, but found that it was of a whitish color. It is perhaps better than no backing, but not so good as the backing given in THE PHOTO-BEACON, page 136, 1901. Neither do I approve of Mr. Maloney's way of applying his backing. Using a print roller is very apt to cause abrasions on the film.

This reminds me of the way a friend of mine used to clear his negatives. He was having trouble and I advised getting some fresh hypo. He replied, "I always use sal soda; it is just as good and is the same thing, anyway." It was cheaper, but certainly was not as good. I make a frame (a sort of kit) to hold two plates, place them film side in, and with a paste brush paint them with the backing and set them back to dry for a few minutes before filling my holders. Of course, it takes more care to remove than the paper, but the time is not much more, while the putting on is in favor of the brush plan. I find that some use a backing that is of a reddish color, while others use a dead black; which is best? If there is any one who can give us any more light on this subject, please do so, for we are all striving for the goal of perfection. JASON D. AMES.

[Formula referred to: "Make a paste of Frescoer's black with equal parts of shellac varnish, alcohol and honey. For 5 by 7 plates I use an 8 by 10 kit, with 5 by 7 opening to hold the plate while applying the backing, which I do with a wide, flat brush. To remove, dampen it, and you can readily scrape off enough to judge density by. The remainder can be cleaned off after plate is fixed.]

GUNDLACH-MANHATTAN OPTICAL COMPANY.

We have been advised of the incorporation, on August 6, of the Gundlach-Manhattan Optical Company, with a capital of $600,000. This corporation takes up the entire plant and business of the Gundlach Optical Company, of Rochester, New York, and the machinery, stock, patents and business of the Manhattan Optical Company, of New York, Cresskill, New Jersey. The plant of the latter company has been closed, and all the effects are being removed to the Rochester plant of the new corporation, where all of its product will be manufactured in the future.



Neg. by Rev A M. Kirsch, Notre Dame, Ind.

PROBOSCIS OF BLOW-FLY.

It is presumably unnecessary to give our readers any detailed information concerning the two companies that constitute the new corporation. The Gundlach Optical Company was the manufacturer of the Korona cameras, and a very complete and efficient series of lenses, headed by the well-known Turner-Reich anastigmat. They furthermore manufactured, in addition to a complete line of photographic goods, an excellent line of microscopes, objectives and accessories, and had recently branched out into the manufacture of the Turner-Reich field glass, whose many excellent qualities have already won for it considerable favorable comment. "It's all in the lens" is the trade-mark of a line of goods favorably known wherever photography is practiced. The Manhattan Optical Company, of New York, was the manufacturer of the well-known Wizard cameras, a line that has steadily improved in every respect, and that has justly won the high regard of the photographic public. In addition to a complete line of photographic supplies, this company also manufactured a complete series of photographic lenses, which was recently amplified by the addition of the Verastigmat, concerning which much favorable comment has been made.

A meeting of the board of directors of the new company was held in the Rochester offices on August 7, and the following officers were elected: President, Henry H. Turner; vice-president, Rudolph J. Schaefer; second vice-president, John Zellweger; secretary, Charles P. Schmid, Jr.; treasurer, John C. Reich.

Under the conditions at present existing the new corporation seems to have taken a wise step at a very opportune time, and we can not but feel that success will result.

Cadillac, Mich., Sept. 20, 1902.

Replying to your notice of expiration of subscription, a renewal will reach you soon through my dealer. I appreciate the excellent material The Photo-Beacon contains these later days.

Yours, etc.,

M. E. Thomas.

CLEARING PLATINOTYPE PRINTS.

A NOTE ON MR. INSTON'S PROCESS FOR OBTAINING SEPIA TONES GIVEN IN SEPTEMBER ISSUE.

The platinotype process is one of the most simple and beautiful ever given to photographic workers, and with reasonable care it is absolutely permanent; but care is certainly essential, not only for securing the full beauty of results attainable, but also for insuring that that beauty shall be enduring. The simplicity of the process appears, in many instances, to have led to a degree of want of care that in a more complicated or difficult method of printing would have been an impossibility, and the result has been that a large number of prints have been seen of an inferior quality, or changing so quickly after finishing, that seems incredible when it is recognized how easily the finest quality can be secured and how little excuse there is for failure or defective work.

In regard to permanence, there appears to be only one point on which the worker can possibly go astray, and that is by failing to clear the prints with acid sufficiently after developing.

From time to time prints are seen that failed to stand the test of time, and show a serious loss of quality; not a fading of the image as is seen in a silver print, but a strong discoloration of the paper basis, quite different in character from the change of color that most papers show with age; much more pronounced and disagreeable, and thoroughly fatal to the lighter portions of the print and the beauty of its appearance.

This loss of quality can invariably be attributed to this one defect in working, want of sufficient care in regard to the acid bath, this being equivalent to insufficient fixing of a negative or silver print, many workers failing to realize that this acid solution is the fixing bath of the platinotype process, and that perfect fixation is quite as essential in one case as in the other.

The Platinotype Company, in their instructions, advise at least three acid baths of a strength of one part hydrochloric acid to sixty parts of water, the prints remaining in the solution for twenty-five or thirty minutes, and this should certainly be the minimum, and in my experience of the process, dating almost from its introduction, it appears to be a somewhat dangerous minimum for the average worker, as so many prints are seen from which the iron salts have been very imperfectly removed. Most of the after toning processes that have been introduced depend for their full success on a certain amount of iron salts remaining in the paper, it being almost impossible to tone a thoroughly cleared print. While it is not desirable to keep prints in the acid bath for much longer than thirty minutes, on account of its softening action on the paper, yet it will be preferable in most cases to give four or five changes in that time, rather than three only, and to make the first change when the prints have remained but two or three minutes in the clearing solution. In extreme cases, where many prints are treated together, six or seven changes may be required. This assumes the strength already given of one to sixty, and it is not desirable to use a weaker bath.

In the instructions given for working by Mr. Inston's method for producing warm, brown tones, the following passage occurs: "Fix, without any intervening washing, in the usual hydrochloric acid bath, made much weaker than the usual formula — make it not stronger than 1 in 200 — following it up with a second similar bath, when probably it will be found that all the iron has left it, and the whites are fairly pure."

These instructions appear to form so serious a step in the wrong direction and also to express so striking a misconception of the importance of thoroughly clearing platinotype prints and of the method of ascertaining when that clearing is satisfactorily accomplished, that the attention of all who work platinotype and especially of those who propose to work by Mr. Inston's method, should be directed to this part of the process and an effort made, if possible, to eliminate this fatal defect and modify the method, if necessary, so as to still obtain the same result without sacrificing permanency.

The whiteness of the paper support of the print can not be considered evidence that the iron salts have been removed from it. A much greater purity than that described in Mr. Inston's instructions as "fairly pure" can be secured by simple washing in plain water after taking the print from the developer, but it is well known that the whiteness of such a print is very fleeting, as the quantity of iron remaining is very considerable; and with such a scanty treatment in the weak bath as suggested, the removal of the iron salts must be very imperfect, and the print, consequently, far from stable.

There is a very simple test for the efficiency of this acid treatment, and those who have been accustomed to give insufficient attention to clearing their prints would be surprised at the results of making it. It is this: take some of the acid solution in which the prints have remained clearing for five minutes or longer, and pour it into a measure glass or other convenient vessel so that a depth of fully two inches can be viewed by transmitted light. It should not show the slightest trace of yellowness but remain absolutely colorless, and however many changes may be necessary, the acid treatment must be continued until this result has been attained. It will demonstrate very convincingly the necessity for continuing the acid treatment long after the paper appears quite white, for while the acid solutions continue to discolor they are abstracting iron from the prints. The rapid discoloration of the first acid bath is sufficient to show the desirability of removing the prints to the second as previously recommended.

It can not be too strongly asserted that the permanent retention of its full beauty can only be assured to a platinotype print by removing the iron salts as thoroughly as possible, and this clearing can only be efficiently performed by using a sufficient number of acid baths of the necessary strength. And the beauty of the finished print is a very full reward for the small trouble involved in taking reasonable care at every stage of its production.

HENRY W. BENNETT, F.R.P.S.

ONE METHOD OF PRESERVING NEGATIVES.

In the December number of THE PHOTO-BEACON, I noticed a well-written article upon preserving and recording negatives. The author spoke of the card system of cataloguing, which is a very excellent idea; but in the storing away of the negatives, I think a plan rather more convenient than the one proposed may be followed.

If the amateur has a small wall space at his disposal, he may utilize it for a negative-holder in the following way, at a very slight expense.

As many persons use four by five plates, I will give the plans for that size: First, four pine boards are needed, two of which are 4 inches wide and ⅝ inch thick. The other two boards should be 5¾ inches wide and ½ inch thick. The length is determined by the number of negatives which the holder is required to contain; twenty-four plates will occupy about one inch of space, therefore, boards five feet in length will make a good-sized holder. Take the two, 4 inches wide, and with a square draw lines at quarter-inch intervals across them at right angles to the long edges of the boards. Next make saw cuts ¼ inch deep on these lines and then place a glass plate (4 by 5) in the saw cuts, which are opposite, on each end of the boards, allowing the 4-inch side of the plates to correspond with the width of the wood. In this way the proper height of the box is obtained and the two ends, made of 1-inch pine, may be screwed on, after which the plates should be removed and the back, one of the two boards 5¾ inches wide, fastened to the other parts of the holder.

If desired, the remaining piece of wood can be used as a door hinged on and fastened to the bottom with a button; but a piece of thick cloth hung on a rod, or even tacked on the edge, is fully as good as the door and much cheaper. The negative-holder can now be varnished and fastened to the wall by means of iron brackets, which may be bought in any hardware store. Negative preservers, made of brown paper, may be bought for 20 cents a hundred and used to keep a record of the enclosed negatives, or else a number may be stenciled upon the top edge of the holder, just above the plate and a careful record kept of each plate by either the book or the card catalogue system. L. R. COLEMAN.

34 UNION SQUARE, NEW YORK.
September 18, 1902.

Editor THE PHOTO-BEACON, *15 Tribune Building, Chicago, Ill.:*

DEAR SIR,—We want to get, within the next few weeks, for the Christmas number of *Country Life in America,* beautiful photographs of scenes connected with Christmas festivities: Christmas trees decorated, distribution of children's toys, or something of the kind that has the real Christmas spirit. Any prints of this sort we will gladly examine and will pay a good price for whatever is available.

We should be very glad if you found it possible to make notice of this in some way, since we think it might be of interest to your contributors.

Very truly yours,
DOUBLEDAY, PAGE & CO.

TO SENSITIZE paper, postcards, menus, etc., says the *Bull. du Nord. de la France,* take of water 4 ounces, sodium chloride 15 grains and sodium phosphate 15 grains. Brush this over the paper and leave it to dry. Then sensitize by another brushing with a ten per cent solution of silver nitrate. The prints are toned, fixed in a weak solution of hypo or ammonia, washed and dried.

I THINK this is the best year of THE PHOTO-BEACON'S existence and I have had it every year since it was born.

Yours cordially,
G. H. FOWLER.

EDITORIAL TABLE.

ALMER COE, 74 State street, Chicago, has just issued his catalogue for 1902, which is very complete, giving full particulars of the best of everything on the market, and in addition contains particulars of many of the minor helps that are not listed elsewhere. Copies will be sent on application.

"PHOTOGRAPHY AS A FINE ART" is the title of a very handsome book by Charles H. Caffin, published by Doubleday, Page & Co., New York, at the price of $3. Its purpose and quality are explained by the following publishers' note: "The pictorial possibilities of photography are here treated from a sane and dignified standpoint for the first time. What can be done with the camera is shown, not by theorizing, but by actual examples of the work of the greatest American photographers, lucidly explained and commented on by the author. The book lays little emphasis on the mechanics of photography. Mr. Caffin's idea is to show the ambitious worker in this new art what is worth striving for, and how the masters of the camera attain it. The hundred pictures are in themselves an inspiration to the student, showing the work of such expert photographers as Alfred Stieglitz, Gertrude Kasebier, Joseph T. Keiley, Frank Eugene, W. B. Dyer, Clarence H. White, Eduard Steichen, etc."

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL.
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. NOVEMBER, 1902. No. 11.

ROUTINE.

One of the members of my household is a collie pup about six months old, who has been labeled with the supposedly appropriate Scotch name of "Don." Like all young animals, Don is undergoing an educational course which is chiefly directed along the lines of good behavior. Naturally, I have taken quite an interest in Don's instruction and have put as much thought into the proposition as in the case of my own young folks, partly because of necessity and partly as it provided me with a new field of psychological study, for Don has a mind and this mind I am manipulating more for my personal comfort than for the good of Don. All dog lovers know that a puppy must be broken into good house conduct, and so on the very start I tried to establish certain habits in him that would cause us the least annoyance. As a part of his curriculum, every night as the clock strikes ten I arouse him from his slumber and put him outside. For several weeks he objected to this treatment and he would race all over the house in order to escape being put to the door. I did not beat him for his disobedience, because I felt that if I did so he would gradually evolve the idea that I woke him up to give him a licking, and this was the very last impression I wanted to get into his head, so, instead, I would get behind him, grasp him behind the shoulders, and push him toward the door, open it and get him outside, and then get him down-stairs.

In the early part of his career, one of my boys who owned him had built a dog hutch, the idea being that he would sleep there at night, and, for a little while, this was tried; but the arrangement was afterward made that he should sleep in the kitchen hallway, because he developed quite a desire "to bay the moon" at an hour that we considered rather unreasonable. Don seemed to think that when he was put outside he ought to immediately go to his hutch, and at once made a bee line for it and got inside. For a few nights I tried to head him off, but without avail, so I succumbed to the inevitable, and let him go through his regular routine. In about ten minutes from taking possession of his little dwelling he would get tired of his job and come back to the front door and whine to get in. At once I opened the door, and then I had quite a little job on hand to engineer him to his sleeping-place. By keeping up this routine every night, for some weeks, I got established in Don's mind a very satisfactory line of conduct. The moment I called to him he would get up readily, get to the door, go down the porch — the front porch, by the way — find his way to the back yard, take possession of his hutch for about ten minutes, then find his way back to the front door, whine, be let in and go straight to the kitchen hallway at the back of the house, and lie down contented to go to sleep. It will be observed that he took a very roundabout way, but I found I could not tempt him to go out the back door nor come in by it, and I therefore accommodated myself to his idiosyncrasies.

Last night a rather funny incident happened. One of the members of the family, about ten o'clock, for the sake of a little exercise, accompanied some callers of ours a little distance on their way home, and incidentally took Don along with him. He was gone about fifteen or twenty minutes, and when he returned at once took the pup back to his sleeping-place. Very much to my surprise, in a few minutes Don began to bark and yelp, and made great efforts to get his freedom, so I went back to him and ordered him to lie down and be quiet. This he did, but as soon as I went away he went through the same performance. I was rather puzzled to account for this new departure in his conduct, and so gave the subject some little thought, and at length it dawned upon me that Don had not gone through his usual routine, and felt that something was wrong. I therefore released him, put him out the front door as usual, waited until he whined for admittance, let him in, took him back to his bed where he lay down and seemingly went to sleep without any more trouble, as I did not hear a single sound from him the whole night.

This little incident started a new train of thought in my mind and made me wonder if we human beings were, after all, much more advanced mentally than many of the lower animals. We claim to be rational beings, arrogating to ourselves a great superiority over the brute creation, but, after all, are we not more or less, particularly more, the slaves of routine? Take for instance, the wonderful case of a soldier in the army. A government chooses a large number of its subjects, puts master minds over them, and by a daily exercise in a system of routine known as drill, they so subordinate the minds of the individuals to a controlling one that each will, at the word of command, obey implicitly any and every order that may be given. Without thought or question they will level their deadly tubes and rob of life whoever happens to be before them, regarding not even the persons of their own brothers, father or mother as being sacred, when under the influence of the fetish known as discipline. "Theirs not to reason why," theirs only to do exactly as they are told, theirs only to play the part of a living machine, casting all responsibility upon the individual who gives the command, who in turn lays it upon another, and so on *ad infinitum,* until no one is really responsible, and so the incident just happened.

So it is in the workshop, the factory, the office or the store. The average individual plays his little part, he quickly learns the routine of a certain little occupation, and is content to trudge the same monotonous round day after day for years or a lifetime. Thus it is in the realms of speculation, of politics and of government. Each individual slips into a groove. He is born into a particular church; he inherits the opinions of a particular political party; he is born to serve a particular form of government and so he adapts himself to his particular set of grooves. Once he fits into them perfectly he jogs along his daily round without any question, and the funniest thing of all, becomes convinced that the particular routine that he has been made to fit is the only perfect one and is instantly willing to sacrifice even life itself in its defense.

To me it is sad, nay pathetic, to see such wonderful possibilities allowed to go to rust and become utterly useless by default. In every individual there lies a reasoning faculty which is utterly worthless to the individual and valueless to his fellows because in the early years of life the leaders of the community — the teachers, preachers and rulers — did not arouse it, but rather preferred to lull it into a deadly slumber. The great problem of life resolves itself in its last analysis into this — given a country and a people, how can the people make the best of the country for themselves — and this problem can be solved only by intelligence and by no other power. Unfortunately, all changes in the past have been based nearly always upon the exercise of unreasoning emotions. Every generation has had its own problems to solve, and too frequently each has resolved itself into a hungry stomach versus intelligent greed, and during the solution both parties to the controversy have undergone untold suffering and misery, which could have been avoided had the masses been trained to exercise their thinking faculty, as really should have been done.

Surely the time has come when human beings may be developed to a higher intellectual plane than that occupied by my puppy dog.

F. Dundas Todd.

Negative by W. H. Evans, Plainsville, Pa.

SECOND PRIZE.

PICTORIAL COMPETITION No. 53.

For many a long year it was considered that portraiture did not fall within the province of the amateur photographer because, forsooth, he did not know retouching, not to speak of his ignorance of posing and lighting. But the pictures sent in for this month's competition demonstrated beyond dispute that the amateur of to-day is as much at home with portrait work as with any other line of work. The judges had great difficulty coming to an agreement as to which were the best pictures, on account of the closeness of the quality of the work, but ultimately they arrived at the following decision:

First prize — Mrs. W. W. Pearce, Waukegan, Illinois.

Second prize —W. H. Evans, Plainsville, Pennsylvania.

Third prize — F. B. Hodges, Rome, New York.

The following are entitled to special mention:

Sara W. Holm, 3; Mrs. E. W. Willard, 4; Mrs. W. W. Pearce, 2; Emma L. Williams, 2; L. H. Lauritzen, 2; E. F. Oyster, 1; Chester Thompson, 1; J. W. Schuler, 1; J. L. Tincher, 1; R. E. Weeks, 1; E. A. Smith, 1; Mrs. R. Jacquemin, 1; Mrs. C. M. Williams, 1; H. H. Crink, 1.

Any one of the pictures found in this special class, but a few years ago, would easily have taken a first prize, so that it is a special honor to be included in the prize list, and quite a credit to be found even in the special class.

FUTURE COMPETITIONS.

Competition No. 55 — Landscapes. Closes November 30.

Competition No. 56 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else*. The outside of the package, in addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

THE Century Camera Company, of Rochester, announce that they will shortly place on the market their latest model, which is entitled "The Petite Century," which they describe as a perfect combination camera, using with equal facility glass plates and cartridge roll film. It makes pictures of the standard size, 3¼ by 4¼ inches. It is fitted with fine rapid rectilinear lens, automatic triple-action shutter, adjustable front, rack and pinion and focusing screen. When folded its size will be 1⅞ by 4¼ by 5⅛ inches. Its weight will be the remarkably small one of seventeen ounces.

THE Coloplatin Company, Newton, New Jersey, announce that, on account of the largely increased production and improved mechanical arrangements in the manufacture of their goods, the cost of manufacture has been very considerably reduced and that, therefore, they propose to give to the consumer all the advantage accruing thereby. From this date, therefore, they announce that Coloplatin will be sold at $1.50 per gross, and that on all their products the retail price will be twenty or twenty-five per cent less than formerly. The firm have just issued a new price-list, showing the cost of all the various products of their factory in all sizes and in both dozen and gross lots, which price-list can be had on application.

PICTORIAL PHOTOGRAPHY.*

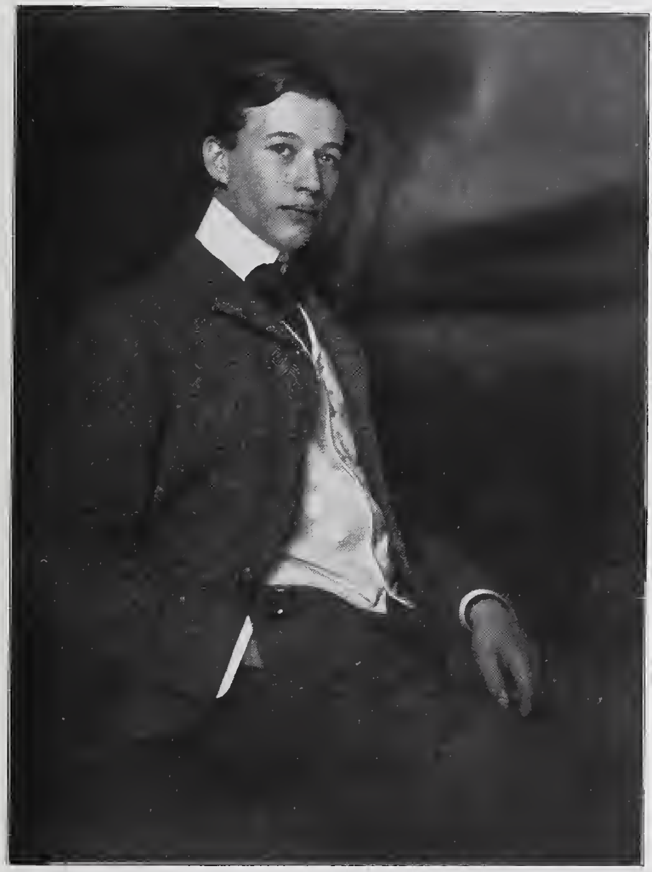
BY LUCIUS W. HITCHCOCK.

CHAPTER XI.

CONVENTION PORTRAITS.

In the last paper I practically finished my outline covering the elements of composition, and it was my intention to select photographs from the convention to publish in the last two issues of THE PHOTO-BEACON for 1902, which would illustrate in practical photography all the various arrangements I have spoken of in the preceding numbers.

Of course, examples of these various arrangements were published with the various papers as they appeared, but rarely were the examples photographs, for the simple reason that I found it impossible to get them. I had hoped the convention would furnish them and that I should be able to make good the statement that often appeared in my papers, that such and such things were perfectly practical in photography. In this I was only partially successful. I have now on my table a number of beautiful photographs, that were in the convention, but I found it quite impossible to get good examples of all the various kinds of arrangements I had spoken of.



Albany Art Union, Albany, N. Y.

Fig. 25.

It was quite evident from the work shown at the Buffalo convention, that the professional photographer does very little genre work, but from the many beautiful portraits, I was fortunate enough to get several.

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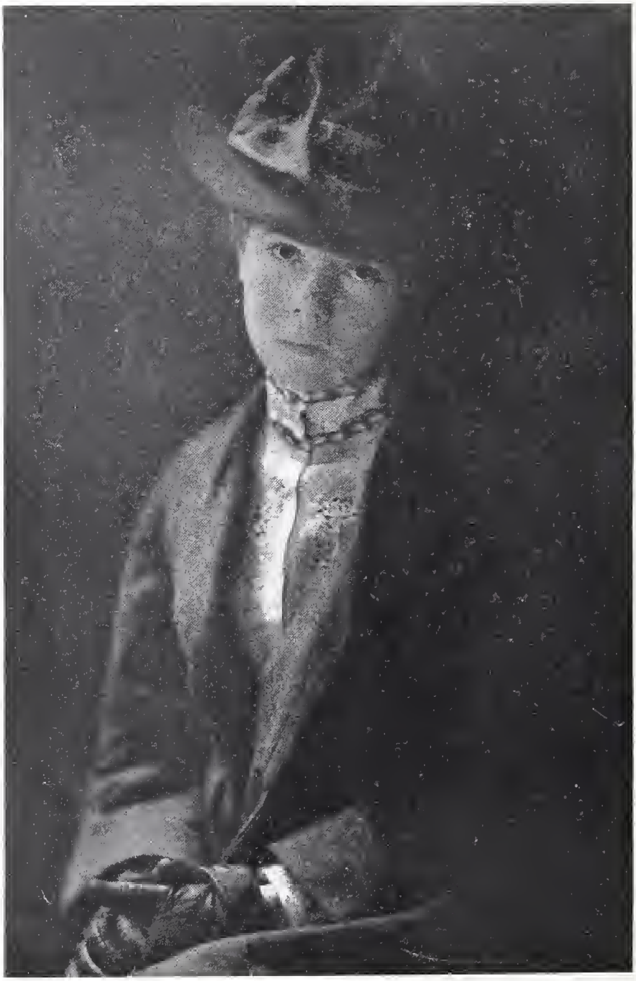
*Copyright, 1902, by F. Dundas Todd.

The exhibition was particularly rich in fine portraits, but the exhibit of genre subjects was rather disappointing. The professional photographer who does genre subjects as a business was happily conspicuous by his absence. The convention is fast outgrowing this sort of rubbish, and it would be a very undiscerning critic who could not detect a steady advance that shall lead the photographer up into the field of Art.

The *Century Magazine*, for October, has a very interesting article on the "New Photography," written as a dialogue between a painter professor, who represents the intelligent layman, and a photographer. I find this article very interesting, as each, though they disagree, has a great deal that is right in what they say. The sum total of it all is: "Is photography art or simply a mechanical performance?"



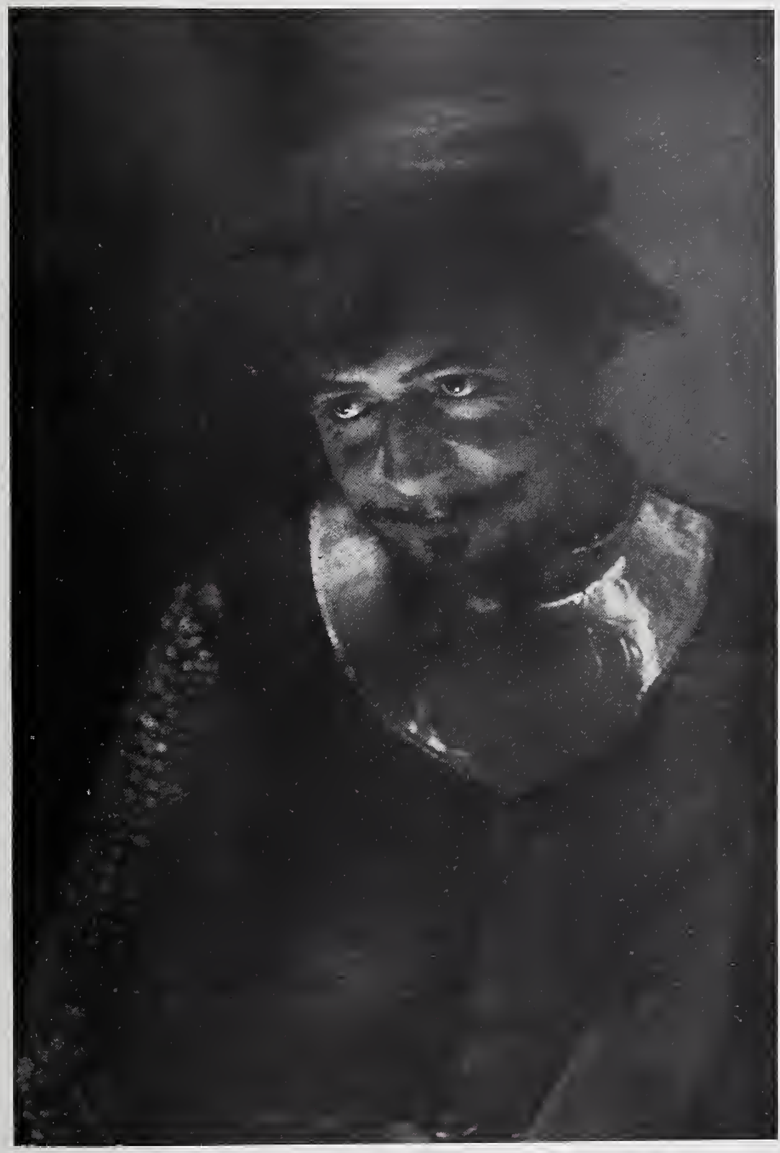
E. Goldensky, Philadelphia.

Fig. 26.

The professional photographer has claimed, quite justly, that when painters were asked to judge photographs they were apt to pick out some freak, or blurred accident, as the prize picture.

This is quite true and is accounted for

by the painter's fondness for plastic or more suggestive qualities; however, the photographer need not feel badly about that, as the painter as well as he gets many a good thing by accident, and no one will deny the fact that the artist with the camera can exercise an intelligent control over the performance of his instrument and is not dependent upon accident for really artistic results. Personally I think that a photograph can be a work of art, but this is not altogether a new question, and I shall not attempt to answer it here; but of one thing there is no doubt, a photograph can have a great deal of artistic feeling

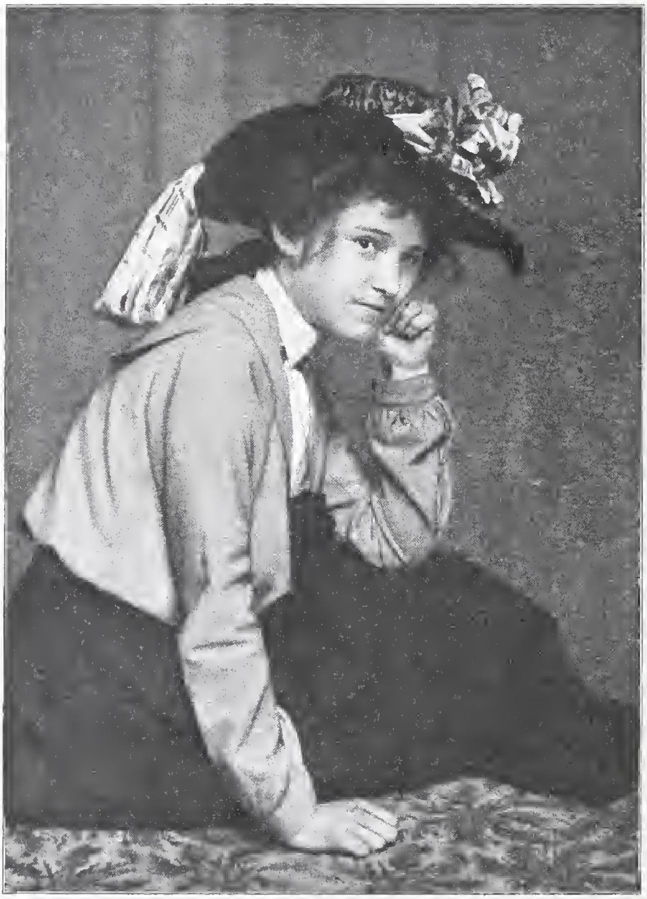


E. Goldensky, Philadelphia.

Fig. 27.

in it whether it can be properly considered a work of art or not.

For instance, take the picture published in this issue of the Photo-Beacon, Fig. 25, by the Albany Art Union, of Albany, New York. I consider this an extremely distinguished portrait, and it illustrates in every way the various principles of composition I have spoken of. In the first place, the spaces are well varied by the figure being thrown up and well to one side of the rectangle. The general contour of the figure has been as cleverly varied as a painter could have done it and shows intelligent care in the lighting. I offer this picture in evidence that all things, lighting, spacing, etc., can be cleverly cared for if you only have the intelligence to do it. The background is dark, but several tones lighter than the dark accent of the necktie that comes into effective contrast with the high light of the collar, thus centering the interest at once upon the head. And the dark spot thus given the advantage, takes the opaqueness out of the background and makes it mysteriously luminous. The rest, though light, is several tones below the collar. This is fortunate and was probably due to its being a yellow or warm tone, but the light on the cuffs and hands was purposely subdued; thus there is no note or contrast that can



J. W. Porter, Youngstown, Ohio.

Fig. 29.

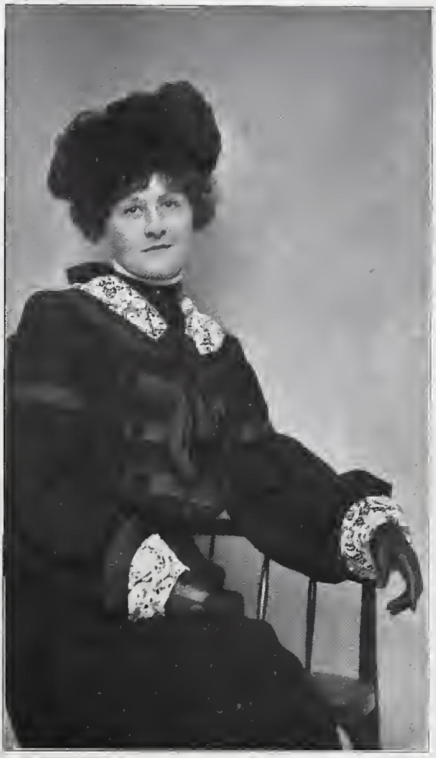
attract the interest away from the place where it belongs. The fob is a pleasant little accent, coming, as it does, against the rest, and making a smaller and more subdued accent in the lower part, but in so subdued a way that it in no way draws the eye away from the upper part of the picture, but makes a pleasant balancing note. The background is broken up in so pleasant a way that it draws us into it, giving a sense of depth, but at the same time its details are sufficiently subdued to take their place. It does admirably what a background should do. *It goes back.*

I also publish in this issue two portraits by Goldensky, of Philadelphia, that I consider extremely beautiful. They both have the more plastic and suggestive treatment of the painter. The portrait of the young girl is full of a naïve charm. So carefully unarranged, or, as Hunt would say, "So carefully careless," that the general mise-en-scène is charming. Again, the spacing is agreeably varied and pleasing, but what charms me most is the lighting. The thoughtful face is turned around into the shadow and lit only by the reflected light from the white waist that makes the lightest note in the picture. I have a suspicion that the reflection from that light on the small patch of the white waist would hardly be sufficient to light the face so well and that other means were resorted to; however, the waist accounts for it and makes the lighting seem natural and not like the diffused light of the "gallery."

The outlines are pleasantly varied and the figure melts into the mysterious depth of the background.

This is a beautiful little portrait, and one I should like to put upon my walls. Mr. Goldensky's portrait of Otis Skinner is a dramatic picture of a dramatic character. The imitation of the footlight effect is admirably carried out and makes it at once a very pleasing, striking and novel picture.

The work of Mr. Lifshey, of Brooklyn, attracted my attention at the Buffalo convention as being very simple, straightforward and artistic. The half-length portrait of a woman in a black street costume is a particularly pleasant bit of spacing. In giving the dark costume a light treatment it was rather difficult to keep the edges from being monotonously hard, but the gown itself has been kept simple almost to a painting effect.



S. H. Lifshey, Brooklyn, N. Y.

Fig. 28.

Altogether I find this a very agreeable photograph: A smart girl in a smart suit. If one is pardoned in fault-finding, the lace seems a bit in evidence, but the picture is so charming in its pose and spacing that it still was one of the notable things at the Buffalo convention.

The portrait of a young miss with a big hat, by Porter, of Youngstown, Ohio, also attracted my attention, for its naïveté and unaffected grace. Things done in this spirit are apt to be far more pleasing than the shoppy-looking "gallery" accessories. It is particularly fitting in this case, as one feels that this young miss would not be apt to sit long in very formal-looking chairs. This sort of discrimination in regard to pose is grasping portraiture in its larger sense. The portrait should be in character from head to heels. All the character is not in the face. When possible, it might be a good plan to get the natural pose of your sitter rather than twist him into one of your own making and cap the ugly climax by pinching the head up against a head rest.

In the little portrait by Porter, the strongest dark and light come into agreeable contrast in the hat, face and collar. The lines are all agreeable and the effect is charming.

THE KODAK DEVELOPING MACHINE.

At the National Convention I had the pleasure of seeing for the first time the Kodak Developing Machine in operation and was so thoroughly convinced of its practicability that I placed an order for the large size at once. It was not, however, until the beginning of October that the style "E" machine got on the market, and, therefore, I was unable to make any trials with it until that date. At the close of the National Convention I spent a few days at the Falls of Niagara, making a number of exposures with a Stereo Film Camera. I kept my rolls of film for machine development, and in the meanwhile I made some interior views of the house of one of my friends, so that I was ready for a serious amount of work when the instrument came to hand.

Before beginning operation I carefully read through the instruction book that accompanies the machine, then I got everything in shape, and, beginning with page one of the instruction book, I followed every detail exactly as set down. On taking the first film from the machine I was delighted with the results and went right ahead until all my rolls were finished. After they were dry I examined them very carefully by daylight and can only express entire satisfaction with the results.

I think I was the first editor in the whole world, who at the very start approved of the Watkins system of development, and every one of my instruction books recommends that system. It was a rather risky thing to recommend this system in the days of its infancy, because, when Mr. Watkins first brought it into public interest, he was derided by the leading scientific photographers of the world, and practically every photographic journal sneered at his ideas, but in my own way, though very crudely, I had evolved a similar system in practical work, having learned by experience that with the pyro formula I was in the habit of using at that time, it took just four minutes and twenty seconds to develop a plate, and, after developing over 5,000 plates by this rule of thumb system, I knew Mr. Watkins had discovered the theory that governed my practice. I think I was also the first to publish a method of developing film in the roll by the see-saw motion in a fairly large developing bath, and have developed many hundreds of rolls by this method. The only drawback to the system is that one is very apt, at the beginning, to get uneven flowing of the solution with consequent stains. The possibility of these is obviated in the Kodak Developing Machine, and for that reason alone I desired to use this new device, even although it might not have any other advantages.

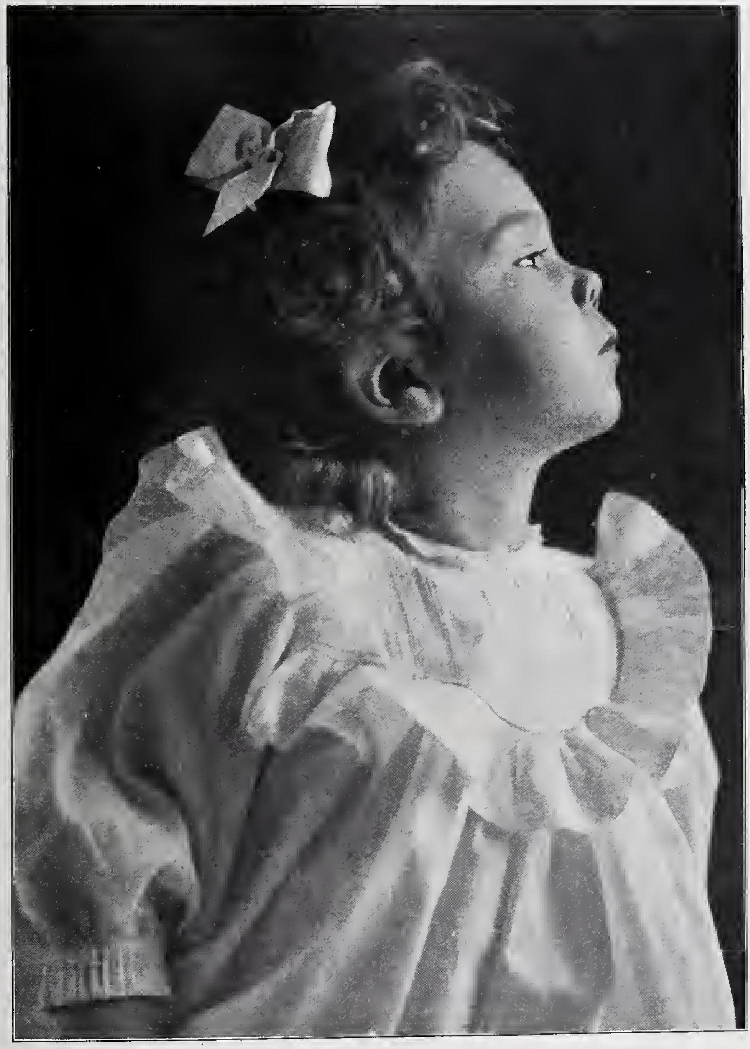
After what I have said, my readers can understand that I heartily indorse every word that has been said in favor of this new tool and recommend it strongly to my readers.

F. DUNDAS TODD.

AT the International Exhibition for Photography and Allied Industries, Amsterdam, August and September, 1902, the well-known photographic "Agfa" articles of the Actien-Gesellschaft für Anilin-Fabrikation, Berlin S. O. 36, namely: Agfa dry plates, Agfa flat films, Agfa rollable films, Agfa developers, Agfa specialties, etc., have received the Diploma of Honor, being the highest distinction.

THE EVOLUTION OF AN AMATEUR.

The first "fuzzy" print came as a great shock to me, for I had sent some of my "best" work to be entered into a prize competition, and felt quite certain I should win the first prize. I even had my mind all made up as to what I should do with the money.



Negative by F. B. Hodges, Rome, N. Y.

THIRD PRIZE.

I had, of course, met with the usual amount of "experience" before I had arrived at the place where I could expose a dozen plates, develop, fix, and print from them and obtain eight satisfactory ones out of the twelve. When I had that much knowledge of photography, I supposed I had it *all;* but as I say, the "fuzzy" affair unsettled me. I couldn't seem to decide as to whether I knew but little of what constituted a pretty picture or whether the judges of the prize-competition were "peculiar." The latter idea gave me the most comfort, so I kept to that. I kept being annoyed with each number of the different magazines that come, for they all were well filled with fuzzy-stuff.

I grew madder each time, and declared that I wouldn't be in with such a "gang," that I guessed (the Yankee cropping up) I knew what was pretty and that I was going to follow my ideas, not some fool man who thought he was artistic.

Just the same, I looked real hard at every "fuzz" that came my way. After a while I had a "sort o' feelin'" that *all* of these fellows, if they were crazy, must have a reason for it, and I had a secret desire to know that reason. I tried to let myself down easy, and yet, I would not follow the crowd without a good sound reason.

Every time I looked at a picture, or took a picture, I went through a course of gymnastics with my eyes to find the "fuzz." It was, however, in but one place — the magazines.

Disgusted and discouraged, I went back to my old idea of photography, which was to have every part of the view full of detail and plainly visible. It didn't seem to do me any good to look at the "other feller's" work — yet, my own work did not hold my interest long.

The wisest thing to have done would have been to sell out or take a vacation. But I wasn't wise, I was only learning, and had to keep nagging myself to find the reason.

I found it, or rather something that seems reasonable and satisfies *me* for the present. Can not tell how long I shall remain in this satisfactory state. After I had found my reason, I experimented, out on a country road all by "my lonesome." Follow me along this 'ere road, and let's see what we will see. We trot along till we come to a curve in the road or till we come to the top of a hill, when a lovely view appears suddenly before us. We are strongly impressed with the beauty of the whole scene; then, gradually our eyes travel from one spot to another of that scene, each spot as our eyes are focused upon it appears clear and well defined.

Mentally, I traveled along such a road, came to the top of a hill, a beautiful scene appeared. I gazed upon it, turned my eyes in every direction; and then like a flash the reason for the "fuzz" came to me.

You see the first impression of a lovely view is so quickly followed by the working of the eyes from one spot to another that we forget just what we first saw, and when we focus the lens upon the scene, we try to bring out every part of it as sharp as when our eyes were focused upon that part alone. Can not you understand that when we focus our eyes upon one part of a view every other part is decidedly out of focus or "fuzzy." To have a photograph correct, true to nature, beautiful, artistic, you must decide what part of a whole scene is the most interesting, focus your lens upon that part, thus leaving the rest out of focus or fuzzy. That will give you a feeling of distance to the part that is truly distant in the view.

But how about the photo that is entirely fuzzy? What does that represent? As I reasoned it out, such a print is so to express atmosphere such as one sees in the spring and fall, of a misty day, at early morning or just when twilight is creeping in.

To get the effect of a fuzzy print it must be viewed from a distance, just as nature must, for the closer you get to a pretty spot in nature the farther off does the atmosphere recede.

When I had reached this satisfactory place in my reasoning, I felt happier, and I was quite sure I knew more, too. Then it was that I saw how I should make my mind up, as to just what I was after when I went off with my camera, when I focused the lens upon a subject. I find that there are many times when I focus on a subject that my desires are for a photograph of good detail, an artistic picture, and often a fuzzy print that will express atmosphere as seen certain times of the day or year. When my desires are many, I try to satisfy every one of them, and so expose a plate for each of the different styles of pictures.

I suppose in time I shall grow to that place where only the highly artistic will satisfy me. In fact, I feel as if away down deep, that the artistic only holds my attention long.

Having arrived at this place, I have also come to see how unlimited is the supply of knowledge, and how delightful is the pursuit of it.

I can even see where every photographer, who strongly desires, may yet reach to: namely, painting. I know that I see more clearly the true lines of art with each new endeavor. I know all the knowledge of art except the actual drawing and knowledge of mixing colors can be learned and applied to photography.

The studying of your pictures will help you as it has myself, to almost see where to begin with the pencil to sketch in just such a scene. The studying of just what tone to obtain in the printing and mounting, as well as the tone values, light and shade to obtain in the negative, are all but steps toward the knowledge of mixing colors. The only other things needed, besides this art-knowledge, is confidence in one's ability, and energy enough to go ahead. We possess all of these things and have but to draw upon them.

Take my advice, however, and do not follow the crowd till you have convinced yourself that there is good reason for so doing.

H. Florence Oliver.

COOKE LENS.

The appearance on this side of the Atlantic of an American agency for Taylor, Taylor & Hobson, the manufacturers of the Cooke lens, reminds us that in 1897 we put one of these instruments through a very exhaustive series of experiments. The matter was then scientifically interesting though not commercially so to photographers in this country because of the difficulty of securing such a lens in this part of the world. Now, with the introduction of a branch of the firm here, our readers may be interested in knowing more about it.

Neg. by Mrs. R. Jacquemin, Burlington Jct., Mo.

The Cooke lens belongs to the now well-known anastigmatic type, and, in case some of our readers may not be thoroughly familiar with the meaning of that term, we explain just exactly what it covers. When an ordinary rectilinear lens is focused on some flat object, say a sheet of newspaper, so that the image on the center of the ground glass is perfectly sharp, it will be found that critical definition extends but a very short distance from this point, for the simple reason that the focal field of the lens is concave, so that to get a perfectly sharp image all over the screen the latter would need to be dish-shaped, with the hollow side toward the lens. The accompanying diagram will illustrate this point. But in the anastigmat lens the marginal definition has been thrown, so to speak, sufficiently far back that all rays proceeding from a flat surface are brought to a focus on the flat screen. With a first-class rapid rectilinear lens, this flatness of field can often be secured by the use of a very small stop, with, of course, the accompanying drawback of much increased exposure.

In testing a lens for flatness of field, we apply the severest test we know, which is to copy one-third size a drawing made on Ross paper. This is prepared paper much used by newspaper artists, which is closely ruled — if we may use the term as being the clearest way of expressing ourselves — with lines composed of small square dots. The sketch artist draws boldly over these dots where he wants a black line, and where he wishes a pure white he scrapes them out with a sharp knife. The dots give the half-tones. It is important that in the negative these dots should be clearly and sharply defined, and speaking frankly, it is surprising how few lenses can render them as they ought to be.

The Cooke lens under test had a focus of 7½ inches. We presumed that if it covered an 8 by 10 plate clear and sharp to the very corner, when smallest stop was used, it would be doing as much as could be expected of it. So trial No. 1 was made, and with an exposure of four minutes a full-timed wet plate negative was secured. On examination the definition was found to be absolutely perfect everywhere, so we proceeded to find what the largest stop was that would give this critical definition. After exposing a few plates we found that so large a stop as f-16 gave the little squares we spoke of sharp and crisp right into the very corner of the 8 by 10 plate, the necessary exposure to secure this result being only fifteen seconds, a great saving of time to a processworker.

But in processwork such a wide angle is never employed, so our next test was to learn what it would do with largest aperture, which is f-6.5. The necessary exposure here was only three seconds, so small in fact as to be unmanageable. An examination of the negative showed perfect definition a little in excess of the maker's claim, which is 4¾ by 6½, so that it may safely be said that the lens with open stop will cover sharply a 5 by 7 plate, to our mind a noteworthy feat.

In tests carried out with other kinds of work the lens behaved as excellently, and we have therefore no hesitation in pronouncing the Cooke lens to be all that is claimed for it, and we think a little more.

The screws are all made to the standard gauges recommended by the Royal Photographic Society, and the flange is fitted with Taylor, Taylor & Hobson's patent device, which is one of the most comforting things in the world to a photographer who has to frequently screw in a lens. There is no hunting to find the beginning of the thread; one has only to bring two arrow-marks opposite each other, make three turns and the thing is done.

In appearance the lens is all that could be desired, the brasswork being of the highest quality.

In construction the Cooke lens has certain peculiarities which differentiate it from other anastigmats. Among these distinguishing features particular stress is laid upon the fact that the Cooke lens contains only three simple glasses, none of which are cemented together, although the two front glasses are separated by a shallow air-space. A natural consequence of this is that, while theoretically as perfect as the more complex anastigmats, its simplicity of construction facilitates the correction of the Cooke lens in a remarkable degree, besides offering other practical advantages, such as the avoidance of loss of light and internal reflections consequent upon a larger number of glasses and reflecting surfaces.

Another advantage based on the construction of the Cooke lens is the peculiar power of adjusting the separation of the glasses, by which means the makers claim that in the final testing and adjustment of each individual lens, they are enabled to obliterate certain aberrations which can not be removed from more complex cemented systems.

By taking advantage of this peculiarity, Messrs. Taylor, Taylor & Hobson have effected a radical departure in hand-camera lenses, which is embodied in the new Cooke Focusing Lens here under notice.

As every amateur knows, he can not focus at one time objects at widely different distances from his camera. If the lens is fixed at that particular distance from the sensitive plate or film which suits a distant object, it must be moved farther from the plate if a near object is to be focused. For this reason cameras are provided with bellows or other means of varying the distance between the lens and the plate. Sometimes, however, in order to simplify camera and shutter construction, as in the so-called "fixed-focus" cameras, the lens is permanently fixed at a predetermined distance from the plate, so that all objects beyond a certain distance from the camera are correctly in focus. Objects situated nearer than this minimum distance from the camera can only be brought into focus by the use of "supplementary lenses" or magnifiers suited in each case to the distances. This method of focusing, while adding to the convenience of the "fixed-focus" camera, has the disadvantage of being applicable only to those distances of object for which magnifiers are provided.

Negative by Sara W. Holm, Sedalia, Mo.

In the Cooke Focusing Lens a simple adjustment of the separation of the two front glasses provides a means of focusing objects at any distance within the range of the lens, while the lens itself remains at one fixed distance from the sensitive plate. The immense convenience of this feature will be readily apparent to all familiar with the "fixed-focus" type of cameras.

The principle upon which the lens effects this is plainly seen in the accompanying diagrams. Fig. 1 represents in section the three simple glasses of a Cooke lens, which form at the point *a* an image of the distant object *b*. In Fig. 2 the object *b* is shown nearer to the lens, so that with any ordinary lens the image would fall at *c*, and would be out of focus on the sensitive plate. In Fig. 3, however, it is shown that by increasing the separation of the glasses *d* and *e* of the Cooke lens, the focus of the entire lens is altered sufficiently to bring the image of the near object *b* to focus at *a* upon the sensitive plate.

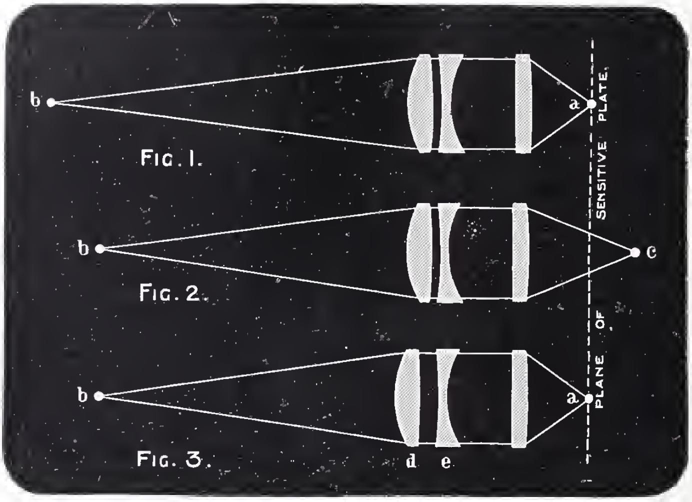


Fig. 4 shows a focusing Cooke lens in which the requisite movement of the front glass is effected by partly rotating the ring A, which has engraved upon it a scale of distances of object. In Fig. 4 the lens is set for use at four yards, the figures engraved on the lens hood being used for focusing, the other figures near the rear of the lens-mount being the f/ values, as usually engraved on the rim of the lens diaphragm.

It is obvious that the definition secured with a lens fixed rigidly in the camera and focused by adjusting the hood, will oftentimes be more perfect than can be obtained by racking the bellows in and out. This applies especially where the focusing arrangement of the bellows-camera has become loose or inexact in its movement.

The Cooke Focusing Lens is made in two series, working at f/6.5 (Series III) and f/8 (Series V). In the sizes up to 6 inches focal length they can be had mounted in a new aluminum alloy, which, with the clever mechanical workmanship which marks all Cooke lenses, makes these instruments peculiarly small in bulk and light in weight.

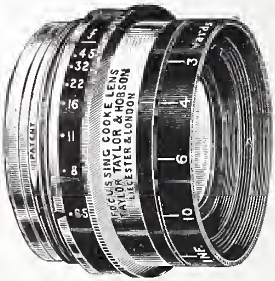


Fig. 4.

An illustrated booklet may be obtained from Messrs. Taylor, Taylor & Hobson, and those who take the trouble to ask for it will find in its pages much valuable lens information and a few clever diagrams.

THE DEVELOPER AND ITS CONSTITUENTS.*

BY A. K. BOURSAULT.

CHAPTER VII.

COMPOUNDING OF DEVELOPERS BY WEIGHT.

The first difficulty met with when about to compound a developer consists in the proper reading and understanding of the chosen formula. The loose and unscientific way in which platemakers, and, we are sorry to say, the technical publications also, formulate generally the solutions and the developers they advocate does not help the tyro along, nor the more advanced photographer, for that matter. Besides, our American and British systems of weights and measures rather complicate the problem, and for that reason all scientists have adopted the metric system as the only one not subject to misinterpretation. It should be given the preference whenever possible on account of its simplicity.

Without going any deeper into the merits of the case we will kindly ask the reader to keep carefully in mind the following facts:

First, notice if the formula chosen is an English or an American formula. This modifies very materially the result, the English imperial pint, for instance, consists of 20 ounces of 480 minims instead of 16 ounces as we figure it in this country, consequently, the following English formula:

Sodium carbonate, crystals..........2 ounces
Water..............................1 pint

must be figured thus:

Sodium carbonate, crystals, ...2 ounces
Water ....20 ounces and not 16 ounces

The following table gives the corresponding value of the American and British fluid measure:

UNITED STATES FLUID MEASURE.

Gal.	Pints.	Ounces.	Drams.	Mins.	Grains.
1	8	128	1,024	61,440	58.328.886
	1	16	128	7,680	7,291.1107
		1	8	480	455.6944
			1	60	56.9618

IMPERIAL BRITISH FLUID MEASURE.

Gal.	Pints.	Ounces.	Drams.	Mins.	Grains.
1	8	160	1,280	76,800	70 000
	1	20	160	9,600	8,750
		1	8	480	437.5
			1	60	54.69

Neg. by Sara W. Holm, Sedalia, Mo.

Second, formulæ are, or should be, always figured (except when explicitly specified otherwise) in Troy or Apothecaries' weight of 480 grains to the ounce and 12 ounces to the pound, whereas chemicals are always sold in avoirdupois weight of 437.5 grains to the ounce and 16 ounces to the pound. Consequently, when you buy one pound of carbonate of soda you get 5,760 grains of same instead of 7,000 grains as figured by the formula. Thus, instead of

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* Copyright, 1902, by F. Dundas Todd.

APOTHECARIES' WEIGHT.

Sodium carbonate	1 lb. = 7000 grs.
Water	1 gal.

you get:

AVOIRDUPOIS WEIGHT.

Sodium carbonate	1 lb. = 5,760 grs.
Water	1 gal.

To make up that formula, you must buy nearly 3 ounces more than a pound to get the required quantity or reduce your water proportionately. This is very frequently disregarded or ignored even by the best professionals who buy one ounce of developer in a package or bottle, getting thus 437.5 grs. They pour the contents of the bottle in their solution and imagine to have made up the formula as called for by the platemaker. Yet the latter is mostly to blame as it would not cost him much to remind the users of their plates of the facts mentioned, or better, to compound their formula by Avoirdupois weight so as to enable photographers to make up their developers without unnecessary weighings. I am glad to say here to the credit of Cadett & Neal, that the formulæ which come with the Cadett plates are models in that respect, and the firm is the only one, as far as I know, among the British and American manufacturers that shows anything like scientific precision in that respect.

The appended tables will show the differences between the two systems:

APOTHECARIES' WEIGHT.

(As chemicals are compounded.)

lb. pound		℥ ounces		ʒ drams		℈ scruples		Gr. grains
1	=	12	=	96	=	288	=	5,760
		1	=	8	=	24	=	480
				1	=	3	=	60
						1	=	20

The pound, ounce, and grain are the same as in Troy weight.

AVOIRDUPOIS WEIGHT.

(As chemicals are bought.)

pounds		ounces		drams		grains (Troy).
1	=	16	=	256	=	7,000
		1	=	16	=	437.5
				1	=	27.34

Third, for compounding use only scales or weights giving Apothecaries' weight. Many scales, and especially lever scales sold by photographic dealers, are wrong in that respect and give the Avoirdupois instead of the Apothecaries' weight. Be sure and test your scales and do not rely on the affirmations of your dealer.

Fourth, when formulæ are given in parts they can be instantly translated in any other system by simply replacing the figures given as parts by the unit of the system adopted, thus:

Metol	1 part	= 1	gr. or 1	ounce	= 1 gram
Sod. sulphite	10 parts	= 10	" " 10	"	= 10 "
Water	100 parts	= 100	" " 100	"	= 100 "

It must be noticed, however, that parts must always be understood here by weight and not by volume. The reader will perceive that 100 grains of water is not 100 minims, and that if he were to use in foregoing formula 100 minims of water instead of 100 grains he would alter markedly the result. As it is not convenient to weigh out the water he will get equivalent enough results by using 110 fluid minims for every 100 grains called for. The following table, which we extract from F. Dundas Todd's Reference Book on Photography, Part II, page 120, will be found useful when it is required to make a solution of certain strengths, the solids being weighed by Avoirdupois weight:

1 Part in	Equals 1 oz. Avoirdupois in water to make ozs.	 drs.	 mms.
1		7	17½
2	1	6	35
3	2	5	52½
4	3	5	10
5	4	4	27½
6	5	3	45
7	6	3	2½
8	7	2	20
9	8	1	37½
10	9	0	55
20	18	1	50
30	27	2	45
40	36	4	40
50	45	4	35
60	54	5	30
70	63	6	25
80	72	7	20
90	82	0	15
100	91	1	10

Fifth, formulæ given in the metric system can be translated exactly as if they were given in parts, or their figures can be multiplied by 15.43 grains, which is equivalent of the gram, thus:

Hydroquinon..................6 grams = 6 x 15.43 = 92.58 grs. = 1 dr. 32 grs.
Sodium sulphite ....18 " = 18 x 15.43 = 277.74 " = 4 dr. 37½ grs.
Water up to.....................500 " = 500 x 15.43 = 7,715 00 " = 17 fluid ounces in round numbers.

Sixth, when making up per cent formulæ it is important to notice the right quantity of water to be used. We often see it stated that to make a 10 per cent solution of potassium bromide we have to take:

Potassium bromide	1 ounce
Water	10 ounces

Now remark that if we make up the solution this way we shall never get a 10 per cent solution at all, which, by definition, should contain 1 part by weight of the solid in 10 parts by weight of the liquid. The formula to be exactly a 10 per cent solution should be written thus:

Potassium bromide	455½ grains
Water *up to*	10 ounces

What we need, however, for ordinary purposes is not in that case a 10 per cent solution, but a solution compounded in such a way as to enable us, without tedious calculation, to figure correctly the amount of dry salt we are adding to our developer. The first formula answers very well this purpose, as one grain of salt is exactly contained in every 10 minims of water, provided we have compounded with Apothecaries' weights (480 grains to the ounce) and added water *up to* ten ounces.

We are ready to acknowledge that in the present instance these differences will not lead us to any trouble in practice, but in many other cases, taking such liberties with figures would have a very marked influence on our developers and would materially affect the results obtained thereby. Why platemakers and others are so lax in their instructions we can not comprehend, as it does not take a particle more time to formulate or to compound in the right way than in the wrong one.

Seventh, in consequence of the foregoing paragraph, whenever in a formula we find a series of chemicals to be dissolved in a fluid, we must always, to obtain the strength called for, dissolve these in part of the water first and complete afterward the amount of water up to the volume required, and not take first the full amount of water given and then add the chemicals. The volume occupied by them would greatly increase the total volume of the solution and weaken it accordingly. Thus, if we make up the following solution as given

Water	32 ounces
Sal Soda	8 "

we will find that in the end we get several ounces more of the alkaline solution than was intended and that our proportions of carbonate to water, and of alkali to reducer is absolutely incorrect. Whereas, if we take 20 ounces of water and dissolve in it the 8 ounces of sal soda, adding water afterward to bring the whole bulk of the solution to 32 ounces, we shall have obtained the result desired. The formula correctly written should be as follows:

Sal Soda	8 ounces (Troy)
Water *up to*	32 "

Neg. by Emma L. Williams,
So. Manchester, Conn.

Eighth, we may often be required in practice to reduce a solution from a higher to a lower percentage. The following simple rule will apply:

To reduce a solution from one strength to another, pour into a graduate as many ounces or drams or minims or cubic c. m. as given by the figure of the strength desired and fill up with water up to the figure of former strength of the solution.

For instance; we wish to reduce a 20 per cent solution of hypo to 8 per cent. We pour 8 ounces of the hypo solution in a graduate of sufficient capacity and add water to it until it reaches the 20-ounce mark.

Ninth, In dissolving chemicals remember that most of them can be dissolved in hot water, but that some of them require cold water and would undergo various chemical changes in hot water. Never forget also that cleanliness is next to godliness, and that many failures are due to disregard of this principle. Always wait till one chemical is entirely dissolved before adding the next one. As a rule, when compounding a developer, the sulphite, metabisulphite, or other preservative, ought to be dissolved first; next to it the acid added, if any be required, then the other chemicals if any, then last the developing agent Pyro, Quinol, etc.

Supposing we make up the following formula, Pyro-Soda:

Pyrogallic acid (Avoirdupois)	1 ounce
Sodium sulphite, crystals, "	3 ounces
Citric acid	60 grains
Water to make together	10 ounces

We take in a graduate 8 ounces of hot water and dissolve in it the sodium sulphite. When dissolved and cooled down we add the 60 grains of citric acid and filter the solution. This being done, we add the Pyro and finally water enough to bring the bulk up to 10 oz.

The reader will forgive me if I have dwelt to some length on these matters, but very often, even among the professionals, there is great carelessness in regard to the compounding of developers, which has resulted more than once in failure, spoiled plates and bad temper. A little attention to the few points enumerated above will remedy all the trouble.

RAY FILTER COMPETITIONS.

Burke & James, of Chicago, send us the following list of prize-winners of their Ideal Ray Filter Competition, which closed October 1. The judges were Mr. F. Dundas Todd, editor of The Photo-Beacon, and Mr. Robert James Wallace, artist, spectrum analyst and color specialist. The following are the prize-winners:

Class I.—Landscape with Cloud Effects.

First prize — One 4 by 5 Century Grand Camera, awarded to M. W. Law, Los Angeles, California.

Second prize — No. 1 Ideal Magic Lantern, awarded to Robert D. Stevens, Hartford, Connecticut.

Third prize — One 4 by 5 Wide Angle Lens and Cell, awarded to Clayton W. Mogg, 539 Normal Parkway, Chicago, Illinois.

Fourth prize — One 6 by 8 Globe Background, awarded to Adolph Ditner, Fort Dodge, Iowa.

Fifth prize — Ideal Jr. Photo Optical Outfit, awarded to Gus Horlin, 5127 Wentworth avenue, Chicago, Illinois.

Sixth to tenth, each, $1.50 worth of photographic goods, awarded to John Von Bermith, Alamosa, Colorado; S. W. Martin, 232 Laval avenue, Montreal, Province of Quebec; Z. M. Barnes, Little Falls, Minnesota; W. C. Webster, Jaquin, New York; William C. Meyer, Ardsley on Hudson, New York.

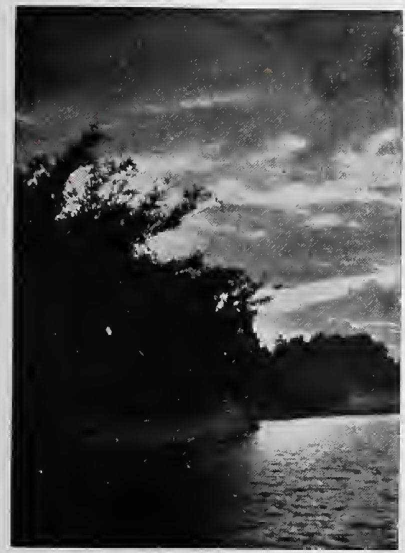
Class II.— Flowers, Duplicate Prints.

First prize — One 4 by 5 Ideal Sr. Camera, awarded to Geo. C. McLean, Carpenteria, California.

Second prize — Ideal Photo Optical Outfit, awarded to Charles S. Springman, 165 Eliot street, Detroit, Michigan.

Third prize — Ingento Ruby Lamp, awarded to Robert E. Weeks, 545 Lunt avenue, Rogers Park, Illinois.

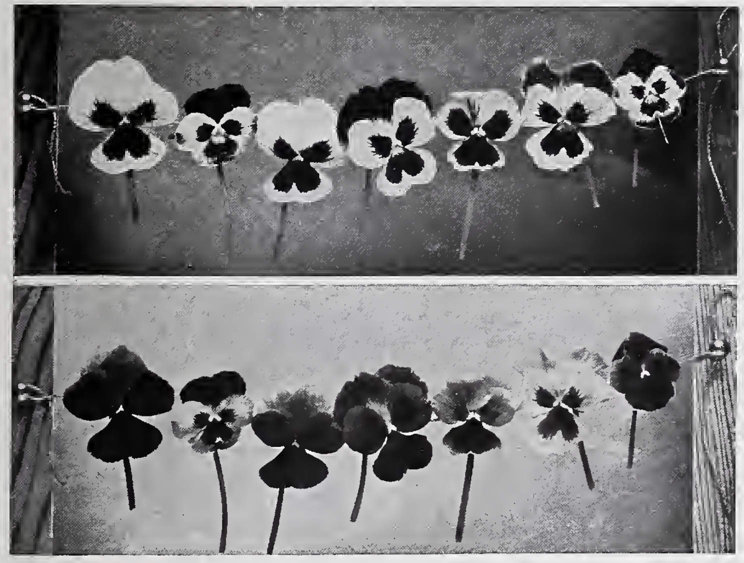
Fourth to eighth, each, $1.50 worth of photographic goods, awarded to C. H. Gardner, U. S. Marine Hospital, Port Townsend, Washington; Francisco Azoarate, Cuernavaca, Mexico; John H. Wilson, Sykesville, Maryland; E. F. Findlay, 1206 Ash street, Macon, Georgia.



THIRD PRIZE — LANDSCAPE.

FIRST PRIZE — LANDSCAPE.

SECOND PRIZE — LANDSCAPE.



WITH
RAY
FILTER.

WITHOUT
RAY
FILTER.

FIRST PRIZE — FLOWERS.

SOME OF THE PRIZE-WINNING PICTURES IN BURKE & JAMES RAY FILTER COMPETITION.

MY EXPERIMENTS.

CHAPTER XI.

THE PIZZIGHELLI PROCESS.

When one has agreed to do a certain thing — any old thing — something or anything, in the abstract — it will add greatly to the estimation and respect with which he is regarded by his observers if he will proceed, at the proper time, to do or perform that certain thing.

Charles Dickens describes a young person whom nature provided with a male parent who made a specialty of doing literally, and with great fidelity to detail, everything that he engaged himself to do. He had not the faintest idea, though, of justice, and did not occupy himself in profitless speculations as to the bearing that his acts might have on others. It sufficed him to know that in doing whatever he had agreed to do, he was doing *himself* justice — he was making his own countenance an agreeable vision to observe in the mirror — the bearing his deed might have on others was something for the others to look out for.

The young person regarded this parent with undoubted respect, but it was a respect that was strongly tinctured with fear, and one which was but little sweetened with love, for it not infrequently happened that the promise of future performance was not only the guarantee of a coming castigation, but, from the very fact of its being an inevitable guarantee, it was in force and had the mental effect of a castigation from the moment that the promise was made until the date of its physical completion — and the latter event often delayed itself for several days.

Now the injustice of this parent may be inferred from the fact that in one of the instances noted by Dickens, the promised licking was for an offense of which the youth happened to be quite innocent. The fact of this innocence became manifest shortly after the promise was made, yet, in spite of the child's innocence, such was the tenacity of the parent's adhesion to a given promise, that he actually walloped the youngster as per schedule, while the briny globules from his lachrymal glands chased themselves into his mustache to think that even in such a pitiful instance he could not break his word.

Keeping one's word is an essential feature in the preservation of one's honor, hence, since the preservation of your own honor may work a wholly inexcusable injustice on somebody else (as in Dickens' story), it would be a good scheme to make sure in advance that what you are agreeing to do is a thing that it will be proper for you to do when the time comes, or, since but few of us are such infallible prognosticators as that, it would be just as well to hand out your promise with a good, honest string tied to it.

Awhile ago, I promised to give you Captain Pizzighelli's formula for making printing-out platinotype paper. After thinking the matter over carefully, I can not see any reason for not doing so, and the following may be accepted as a fulfillment of the promise.

This formula is transcribed from Captain Abney's good book, and the only change that I have made in it is the addition of quinine to the B solution as a substitute for and improvement on carbolic acid, which, in that book, is prescribed as a check on the formation of mildew when the solution is kept for any length of time.

A.

Chloroplatinite of potassium..150 gr.
Distilled water ......2 fluid ounces.

B.

Ammonio-ferric oxalate......600 gr.
Potassium oxalate (5 per cent solution) ....3½ fluid ounces.
Sulphate of quinine ....8 grains.
Glycerin ....1 dram.

Heat the oxalate solution, glycerin and quinine, to about 90 degrees Fahr. and then add the ferric salt. When the latter has dissolved, filter it and keep it in the dark in a well-stoppered bottle.

C.

Chlorate of potassium (5 per cent solution) ....2 drams.
B solution (as given above).3½ ozs.

There is also a D solution given, or

rather, since there are 300 grains of dry mercuric chloride and 600 grains of dry potassium oxalate mentioned, with only thirty minims of glycerin available as a solvent for them, it is hardly safe to describe it as a solution. Thirty grains of glycerin would slide into those 900 grains of solids and get lost there. However, the D solution is not essential, and it may be safely disregarded.

Negative by J. L. Tincher, Danville, Ill.

The directions for using the above, as stated in the book, are:

Solution A, 84 minims.
Solution B, 100 minims.
Solution C, 34 minims.

The above amount is said to be sufficient for a sheet of paper 26 by 20 inches, but since each of above solutions will keep indefinitely if they are not mixed together and are left in the dark, and since it is not advisable to mix them except immediately before use, you may ignore the precise figures given and mix them in any volume that you wish, keeping, however, to the following proportions:

A, 8 parts.
B, 10 parts.
C, 3 parts.

Supposing you were to wish to mix

up a dram of sensitizer from the above solutions. You would then translate *parts* as minims, and, since 8+10+3=21, or, roughly, one-third of a dram, you would only need to multiply each factor by three to arrive at the precise quantity each of A, B and C that is required to make your dram of sensitizer.

This latter explanation may be and probably is quite superfluous to most of my readers, and I should hesitate to affront them by tendering an understandable translation of the much-used term *part*, if I had not been requested to do so by an occasional correspondent.

The principle upon which this process of Pizzighelli's is founded is easily understood: The developer (potassium oxalate) is added to the sensitizer so that the image is completely formed during exposure, providing that the paper is slightly damp while it is printing, and the glycerin, which is strongly hygroscopic, is added for the purpose of attracting atmospheric moisture.

The sensitizing directions that were given in my last paper will apply to the above process with equal pertinence, and the paper, when sensitized and dried, must be preserved with scrupulous attention to air-tight, moisture-free and light-proof protection or it will rapidly deteriorate; but since it will not *print out* fully unless it contains moisture while printing, the sheets that are to be printed on must be removed from the calcium chloride box and exposed to the air (in the dark, of course) for two or three hours before they are exposed.

If they are printed while quite dry, they will only give a faint image, just about like that on the ordinary platinotype paper, but the image in that case can be developed out to full strength by immersing it in hot water (120° Fahr.)

If the paper was moist enough so that the full results were obtainable in the printing-frame, immerse it, as soon as printed, in a 1:60 hydrochloric acid bath and complete the fixing and subsequent washing in the usual way. If it had to be developed, remove it from the hot water to the acid bath, and then proceed as usual.

This is the Pizzighelli printing-out process and you will find it an entertaining one to experiment with, but, as Captain Abney points out, it is not, strictly speaking, a process that can be relied on to give perfect results, for, while the image is forming, it, itself, puts a barrier to its own completion by reason of the opacity of the surface darkening, shutting off, or preventing any further action of light on all beneath it.

This sounds like a reasonable stricture, but it is not wholly harmonious with the facts which are (in my experience, at least) that the printing, while somewhat retarded by the first or surface deposit, really continues as long as the paper is exposed to sunlight, and a completely printed-out image will be formed in due course of business.

RALPH MARTIN.

A DARKROOM CABINET.

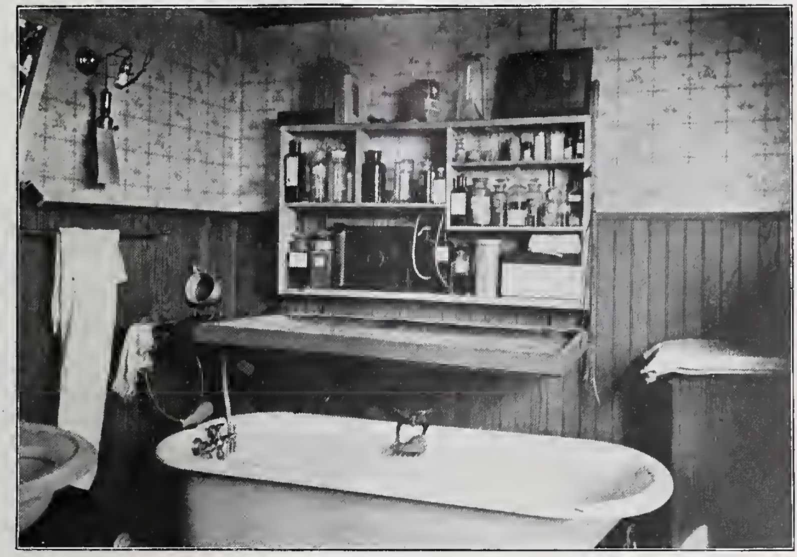
At the editor's suggestion I will write a description of my cabinet used by me for a darkroom.

The photographs show it very well. It, of course, can be changed to suit the demands of the person building it.

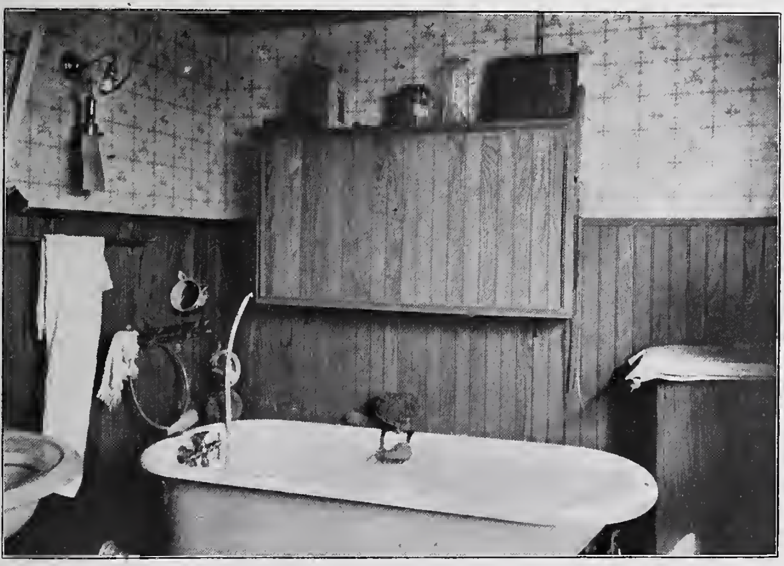
The lumber (oak) was ordered cut and dressed at the mill, so that when I received it I only had to nail it together, put in the zinc sink and make the hinges and catches. These I had to make, as I could not buy what I wanted.

I think I would advise making the part of the cabinet used as a sink of wood only, and rendering it watertight by giving it a good coat or two of asphaltum varnish, as the zinc does not stand the acids very well. This wooden construction would be cheaper and lighter. The drawing will show my method of hanging, which does very well and does not make any holes in the plaster. I hung it this way so that I could counterweight it and lift it out of the way, but have not found that it bothers me any, so never finished that part of the scheme.

For my windows I have a very heavy window shade which pulls down in a slot at each side of the window-



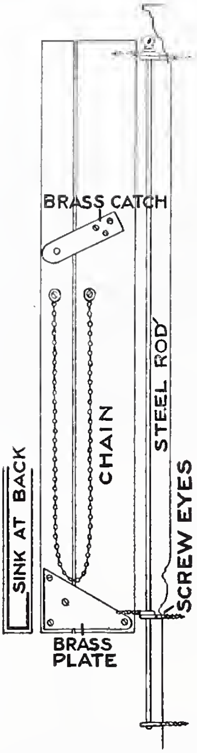
THE CABINET OPEN.



THE CABINET CLOSED.

casing, and when both curtains are down they keep out every particle of light.

In the "open for business" photo can be seen the way the zinc folds back, making a trough, when closed, with a tube leading to bath-tub overflow. This has been very satisfactory and is always ready for use.



W. S. GERTS.

MOONLIGHT PHOTOGRAPHY.

The subject of "photography at night" has occupied considerable space in several of the magazines this summer, and as I consider it a very interesting phase of photography, I have read what I could find written on the subject.

We all have seen many pictures made at the Pan-American Exposition by the aid of electrical illumination, but it remained for the seeker after the unusual to pack his tripod and box, bundle up in an ulster, and with the clock at midnight and the mercury at zero, go out looking for pictures.

The result of this trip I herewith send you, hoping they will meet with your approval, and find their way to the pages of THE PHOTO-BEACON.

Each of the exposures was of 20 minutes' length, lens full open, on a Stanley plate No. 50.

Time of exposure from 11:40 to 12:20. W. H. PORTERFIELD.

LOOKING BACKWARD.

We hear much these days about the carbon and gum bichromate processes, but seldom hear of the man who made them possible. His name was Mungo Ponton, and he was one of the investigators of the early days of photography, working on the same lines as Fox Talbot. Thinking that the readers of the BEACON might find it of interest, I herewith send a copy of the paper in which the discovery was given to the world. The original was published in *Jameson's Journal*, July, 1839.

"While attempting to prepare paper with the chromate of silver, I discovered that when paper was prepared with bichromate of potash alone it was powerfully and rapidly acted on by the sun's rays. It accordingly occurred to me to try paper so prepared to obtain drawings. The result exceeded my expectations. When an object is laid in the usual way on this paper, the portion exposed to light speedily becomes tawny, passing more or less into deep orange.

"In this state the drawing, though beautiful, is evanescent. To fix it, all that is required is immersion in water, when it will be found that the portions not acted on by light are easily dissolved out, while those exposed to light are completely fixed. By this second process the object obtained is white upon an orange ground, and quite permanent.

"The action of light on the bichromate of potash differs from that on the salts of silver. The blackening seems to be caused from the formation of

By W. H. Porterfield, Buffalo, N. Y.

MOONLIGHT PHOTOGRAPHS.

oxide of silver. In the case of the bichromate of potash again that salt is exceedingly soluble, and paper can be easily prepared with it. The agency of light not only changes the color, but deprives it of solubility, thus rendering it fixed in the paper. This action appears to me to consist in the disengaging of free chromic acid, which is of a deep red color, and seems to combine with the paper.

"The active power of the light resides principally in the violet rays. To demonstrate this, three similar flat bottles were prepared, filled one with ammoniuret of copper, which transmits the violet rays, one with bichromate of potassa, transmitting the yellow rays. The third with tincture of iodine, transmitting the red rays. The paper was readily acted on through the first, but scarcely at all by the second and third.

"The best mode of preparing paper with the bichromate is to use a saturated solution of that salt, soak the paper well and dry rapidly at a brisk fire. The paper thus prepared acquires a deep orange, when exposed to light of the sun.

"A pleasing variety may be made by using sulphate of indigo along with the bichromate of potash. The color then being of different shades of green.

"Paper thus prepared is equally sensitive with most of the papers prepared with the salts of silver, though inferior to some of them. It is not sufficiently sensitive for the *camera obscura,* but answers quite well for taking drawings of dried plants, or for copying prints, etc. Its great recommendation is its cheapness.

"The preparing of paper with the salts of silver is a work of extreme nicety, whereas both the preparing of the paper with bichromate of potash and the fixing of the images are matters of great simplicity. And I am therefore hopeful that this method may be found of considerable utility in aiding the operations of the lithographer."

MUNGO PONTON, ESQ., F. R. S. E.
Foreign Secretary, Society of Arts for Scotland.

"He builded better than he knew." The discovery has been of immense value, and has been put to practical use in numberless applications outside of photography, and the end is not yet. Here we find the carbon process, minus the gum, outlined in the year 1839. Those who have a taste for experimentation will find in bichromate of potash great possibilities. The image though visible is not strong enough to constitute a satisfactory picture, but there are doubtless chemicals by which it can be intensified or developed. The writer has experimented with pyro and potassium bisulphite, with some success. The image changes under the action of these, from orange to dark steel gray. The great difficulty is in preserving the whites. The sensitized paper *must be dried in the dark,* and when dried it is very sensitive and all operations should be carried on by artificial or subdued light, until the unaffected salts are washed away. Then the developing may be done in broad daylight. The parts unaffected by light should be white paper, otherwise the image will be flat and unsatisfactory.

JAMES THOMSON.

DULUTH, MINNESOTA, Oct. 8, 1902.
F. Dundas Todd, Chicago, Ill.:

DEAR SIR,— For upward of two years I have been buying THE PHOTO-BEACON at the news depots and reading it carefully from beginning to end, and I must say that what little I have learned about photography in the past two years has been imbibed mostly from THE PHOTO-BEACON. Therefore, it seems to me that it would be well if I placed myself as a regular subscriber on your lists. Not that I have much to thank you for, for photography has caused my friends, upon several occasions, to have a quiet investigation made into my sanity, and at one time I was pretty well decided in my own mind that the lunatic asylum was the proper place for me. I made some wonderful pictures in those days. They were enough to send any man to a madhouse. But I am doing better now. In fact, the doctor says I am doing quite as well as could be expected for a man who has gone through what I have. It is really a wonder that I ever lived at all. I had all the druggists in town crazy putting up photographic prescriptions for me. I'll bet my darkroom had over ten thousand different bottles in it at one time, and, to save my life, I could not remember what the different prescriptions were for. I have tried to develop plates with platinotype developer, and I have tried to get an image on platinotype paper with Velox developer, and I have tried to fix films and plates with a gold toning bath. I remember once coming out of the darkroom with about seventeen yards of film wound around my neck, and my face about seventeen colors from trying to develop the whole film in one piece in a mild solution of bichloride of mercury and sulphite of soda in a tray in which I had previously mixed some non-halation plate-backing. Oh, I have suffered in my day! It is a wonder that I did not take to drink, and I think I would have done so, only I was afraid I could not tell the drink bottle from some of the others, and so bring myself to an untimely end. Later on I was tempted to try it, with the hope that I *would* get the bottles mixed and so end my earthly troubles. But then I decided to put it off until I had learned something more about photographing clouds, for I was weak there and I did not want to go into the next world unprepared.

Then one of the shelves in my darkroom broke down under the tons of bottles that reposed on it, and smashed pretty much everything on the other shelf, and as I could not remember what the broken bottles contained, I fired the whole outfit, and started over again. But I have never gotten farther than half a dozen bottles, and now I am beginning to recover my mental stability again. But I am not out of danger yet. I can see breakers ahead, for I have yet to take up gum and carbon. They will probably finish me.

But I have much to be thankful for. I am not a *real* photographer, only an amateur. So here is your dollar, and I hope you won't go and spend it for gum or candy or other foolish things, and I hope that THE PHOTO-BEACON will keep right on shining, for the benefit of the poor mariners who are adrift on the photographic sea, lost in the fog, and unable to get their bearings.

Very sincerely yours,
DAVID H. DAY.

I WOULD like to tell Mr. Todd that all I know about photography I owe to him. I have learned everything from first to last by myself with the aid of his books.

EDITORIAL TABLE.

KIRK, GEARY & Co., San Francisco, California, have just placed on the market a one-solution intensifier under the name of "Motak" which we find works very well.

No. 2 OF THE SIXTH VOLUME OF CAMERA NOTES, which is now to hand, is one that will doubtless be examined very carefully by every subscriber, because it is the first number issued under the new management, whose policy, it is understood by photographers at large, will be on broader lines than that of their predecessors.

The first glance will, doubtless, be devoted to the pictures presented in the number, at least we find that all of our callers practically devote all their interest to this part of the journal, and without exception we notice all express themselves as being simply delighted with the frontispiece, which is a beautiful Cuban study by H. A. Latimer, Boston, and is one of these photographs that compels one to admit that photography has won for itself a position in the fine arts. Another especially fine piece of work is a portrait study by F. C. Clarke, while a miniature by Will H. Moses, New Orleans, will be attractive to very many. Among the rest of the pictures, and these are not few, every school will find one that appeals to their tastes, because catholicity seems to be the keynote to the issue.

The literary matter is just as varied. The first article by ourselves is entitled "Suggestion," dealing with art from a psychological standpoint, and is followed by a very practical and plain article on "Toning Platinum Paper by Uranium." The pictorial side of photography is taken care of by very excellent articles by F. C. Clarke, Osborne Yellott and Henry M. Reichenbach, while on the practical side we find such subjects treated of as "The Numbering of Lens Diaphragms," "Acetonesulphite," "A Lantern Slide Matt-Cutter," also news of the latest apparatus on the market. Altogether this will be found a very interesting number. The general appearance is very much like that of previous issues, but to our mind many of the changes in details are in the lines of improvement.

MESSRS. TENNANT & WARD, New York, send us advance copies of three important books dealing with the technical side of photography.

"The Lens." A practical guide to the choice, use and testing of photographic objectives; by Thomas Bolas and George E. Brown. The purpose of this handbook, which covers 176 pages, with a profusion of diagrams and illustrations, is to explain the properties of photographic lenses without the aid of confusing mathematical formulæ, and to give practical instruction in the selection and proper use of lenses for various purposes. The number of books devoted to the photographic lens has increased of late years, but a careful examination of this latest contribution convinces us that it deals more helpfully with its subject than any of the others. It is cyclopædic in its character, and the descriptions are given in very plain language. We can not recall a handbook on the lens which is so thoroughly illustrated. Photographers needing lens information will do well to obtain a copy of "The Lens," wherein they will find definite answers to most of the questions one may ask about the everyday use of lenses. The book has a capital index and is well bound. Price $1.25, postpaid.

"Finishing the Negative." A handbook of all the processes between fixing and printing, with a special chapter on films. Edited by George E. Brown. This is a very practical edition to the literature of photography and covers a definite period in the history of the gelatin negative. In its 160 pages it practically tells the photographer everything he can want to know about the processes which are applied between the removal of the plate from hypo and its arrival in the printing-frame. The Chapter 10, on retouching portrait negatives, and the following chapter, on handwork, on the back and front of the negative, with pencils and chemicals, are worth many times the cost of the volume to those seeking instruction upon these difficult branches of photographic practice. Like the book on lenses this handbook is cyclopædic in its fulness, and written in very simple language, with many illustrations in the text. It has a full index and is bound in cloth. Price $1.25 postpaid.

"Photographic Apparatus, Its Making and Adapting." In this volume Mr. George E. Brown has gathered together a number of practical papers on the home manufacture of photographic apparatus. Although amateur and professional photographers in America are not so much given as their English brethren to attempting the manufacture of cameras, enlarging apparatus, etc., at home, this volume will be found exceedingly useful by those who are remote from the large cities and have to do the best they can with such materials as they have at hand or can readily devise. The book contains 128 pages and almost 200 diagrams and working sketches. It fills a very definite want in its field. Cloth-bound $1, postpaid.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL, Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

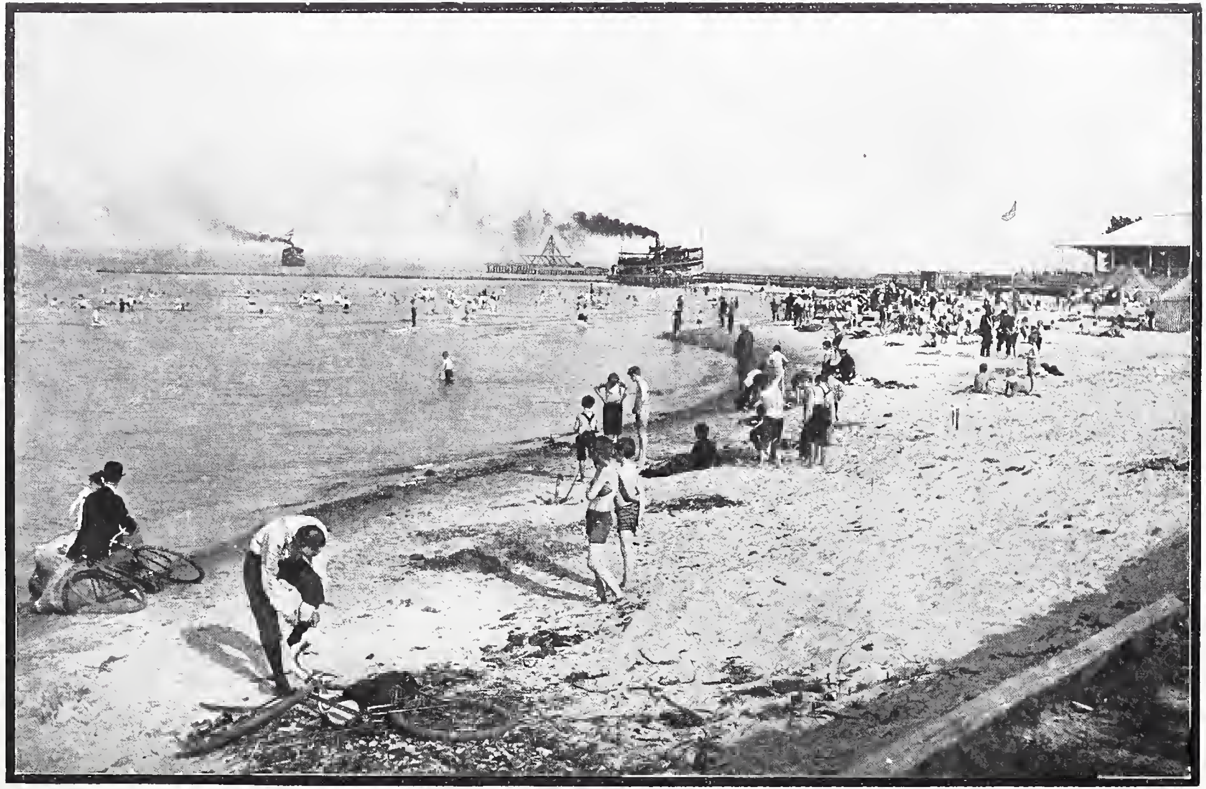
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Negative by F. S. Stiles. Chicago.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 409 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XIV. DECEMBER, 1902. NO. 12.

SPECIAL NOTICE.

A very large number of subscriptions expire with this issue of the magazine, and we would request the readers to renew their subscriptions as early in the month as possible so as to make certain that they will be on the list when the January number is issued. It is also a great saving to us in office work when a subscription is renewed promptly, because a renewal takes but a couple of minutes of a clerk's time, whereas dropping a subscription and reëntering it is responsible for at least ten minutes. Seeing that hundreds of letters reach our office every day during December and January, our readers can see for themselves how much we appreciate the careful reader who is prompt in his remittance.

PAST AND FUTURE.

It is now my pleasant duty to wind up the work of the past year and to tell my readers how grateful I am to them for all their kindness, which has been evinced to me in a great variety of ways, but more particularly by the tangible method of recognition, namely, that of dollars and cents, because through their efforts there has again been a very considerable increase in the circulation of THE PHOTO-BEACON. During the year I have tried to lead them on to a higher plane of photographic work, a fact which has been much appreciated, but I must confess that, looking back over what I have done during the year, I am somewhat suspicious that in some cases I have been guilty of a fault that is often credited to preachers in so far that not infrequently I may have shot over the heads of a considerable number of my readers; and so, laying out my program for 1903, I have endeavored to hold myself in check and will cater for the humble beginner just as much as for those advanced, because I want my family to comprise, if possible, every one, from the novice to the expert.

A year ago it seemed to me that the amateur was more than ever interested in portrait work, and so I felt that a series of articles on the pictorial side of this phase would be good for both professionals and amateurs. The pictures sent in for various competitions show how excellent has been the effect of these articles. In thinking over my program for 1903 it struck me that, instead of having a series written by some art worker it might be a wholesome change if I personally took the winning pictures each month and analyzed them carefully to show wherein lay the secret of their success and in what respect they could be improved, just as I frequently do to visitors in my office, and after due consideration, have decided to adopt that plan; and so, beginning with the January issue, I will go into the matter very thoroughly and in a new way.

During the past year I have been fortunate enough to add very materially to my stock of practical articles, and these will form a more important feature of the journal in the next volume than in the present, where, on account of having some very excellent matter of greater length than usual, the tendency has been to run more into series than has been my custom in the past. The matter was so good that I felt it would be unfair to my readers to miss it, but, on the other hand, it naturally resulted that there was less variety in the pages than in former years.

I need not say one word about the quality of the pictures that have appeared during the present year. My chief trouble has been that I could not use one half of the really fine specimens of photography that have been submitted to me, and so those printed have been of a very high grade indeed, and the outlook for the coming year is that they will be even finer.

To one and all my readers I wish as pleasant a year for 1903 as they have given me during the past year. They have made me happy every minute of 1902 and I tried to reciprocate: The many kind letters I have received indicate that I have at least been successful with a very large number, and I think I am justified in feeling that the silent ones have felt just as deeply as those who have expressed themselves.

F. DUNDAS TODD.

THE Brooklyn Academy of Photography, 177 Montague street, Brooklyn, New York, proposes to advance the technical education of its members by having every month a print show in which each process will be dealt with in turn. Also, once a month, lantern slides will be tested and criticized, and in addition to all this practical demonstrations will be given by experienced men. We have no doubt that the readers of the journal resident in Brooklyn and vicinity will be only too glad to take advantage of this opportunity.

A GOOD renovator for worn leather is white of egg laid on with a brush. The leather should first be sponged with soap and water, then stained evenly all over, and when dry the white of an egg is laid on.

PICTORIAL COMPETITION NO. 54.

It is with rather mixed feelings that the judges make their appearance nowadays on the first of each month to select the winning pictures in our competitions. They are as eager as schoolboys to feast their eyes on the good things that they know will certainly be found in the prints submitted to them, but the great plethora of really good pictures makes it a serious task when it comes to arranging the pictures in the order of merit. The difficulties were enhanced this month by the fact that it was a snap-shot competition, because very naturally the speed of the shutter had to be considered. In passing, I may remark that a great many readers seem to be rather puzzled over the definition of a snap-shot picture, but the judges long ago decided that they could not go beyond what was evident in the print and they, therefore, consider as snap-shots only such pictures that bear evidence they could not be taken by a hand exposure. Acting on this ruling, quite a number of really good prints were put out of the contest in the very first round. For instance, any one standing working at some occupation need not necessarily be taken with a snap shutter, because the same result could have been got by removing the cap from the lens and restoring it in a few seconds.

All things being equal, of course, pictorial quality decided the order of merit and the following were the decisions of the judges:

First prize — F. E. Stiles, 1130 Adams street, Chicago.

Second prize — O. Burns Hicks, 1151 Jackson boulevard, Chicago.

Third prize — R. M. Sears, La Grange, Illinois.

Honorable mention — Walter G. Armour, C. Weinond, Z. N. Barnes, John Boyd, Will G. Helwig, 2; A. L. Thomas, D. H. Brookins, M. B. Wright, J. Thomson, George F. Mannel, Louis Fleckenstein, A. H. Waite.

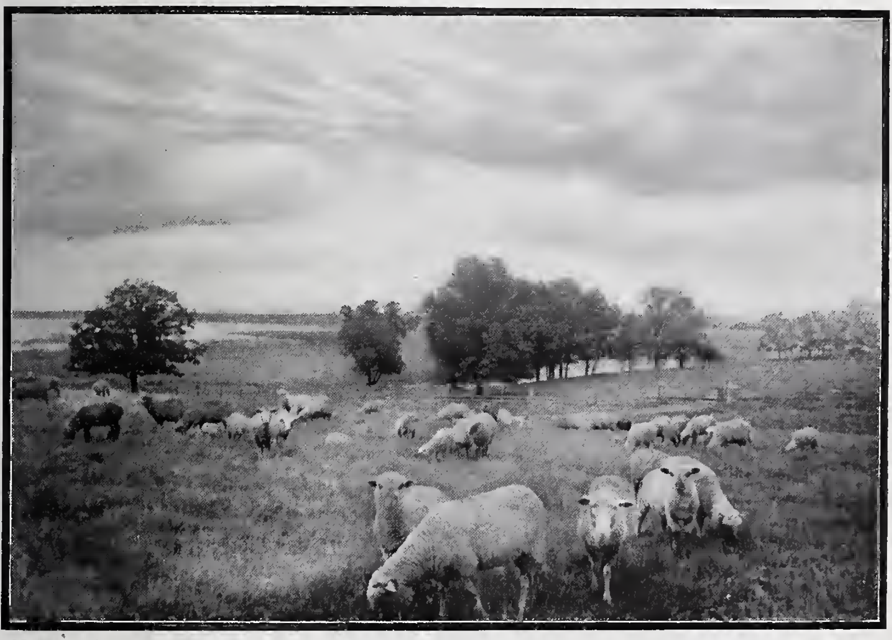
The pictures submitted by the last five competitors were very good, and are examples of the point mentioned above in that they might as easily have been taken by time exposures as by a snap-shot.

PARTICULARS OF WINNING PICTURES.

First prize — Taken in June at 4 P.M. on Seed 27 plate, with stop 16, exposure 1-25 of a second. Printed on Cyko paper.

Second prize — No particulars given.

Third prize — Taken in April at 3 P.M. on Stanley plate, stop No. 8, exposure 1-100 of a second. Printed on Argo paper.



Negative by O. Burns Hicks Chicago.

SECOND PRIZE.

FUTURE COMPETITIONS.

Competition No. 56 — Flower pictures. Closes December 31.

Competition No. 57 — Pictures of children under seven years of age, not necessarily portraits. Closes January 31.

Competition No. 58 — Lantern slides, any subject. Closes February 28.

Competition No. 59 — Snow pictures. Closes March 31.

Competition No. 60 — Waterscapes. Closes April 30.

Competition No. 61 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 62 — Domestic animals. Closes June 30.

Competition No. 63—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 64 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 65 — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 66 — Snap-shot pictures. Closes October 31.

Competition No. 67 — Landscapes. Closes November 30.

Competition No. 68 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in

addition to our address, may bear that of sender, but must not have even such words as "Photographs." *All packages violating this rule will be declined.* Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

ROCHESTER, N. Y., Nov. 5, 1902.
Editor Photo-Beacon, 409 Security Bldg., Chicago, Ill.:

DEAR SIR,— I take this opportunity to advise you that we have received from our friends abroad and from many in this country vigorous protest against the closing of our Photographic Competition on January 1, as intended, owing to the fact that many photographers are preparing elaborate exhibits for the competition and will not have time to properly complete the same and get them in our hands by January 1. In order, therefore, to allow all time that is necessary for this purpose, we have decided to extend the date of closing our Quarter-Century Photographic Competition in which we are offering $3,000 in awards, until October 1, 1903. We should be glad to have you publish a notice of this extension in the next number of your journal in order that your readers who are now preparing exhibits may have an opportunity to take advantage of this additional time. Yours truly,

PUBLICATION DEPARTMENT,
BAUSCH & LOMB OPTICAL COMPANY.

THE new catalogue of Collinear and Telephoto Lenses and Porro Prism Binoculars, issued by the Voigtlander & Son Optical Company, 137 West Twenty-third street, New York, is a very interesting one, because, in addition to giving particulars of the excellent instruments made by the firm, it contains in very short space some interesting particulars about the qualities that go to make a perfect lens, both theoretically and practically, and for this reason the catalogue ought to be in the hands of every one interested in photography. The new features of the instruments catalogued consist of a "focusing jacket" mounting in the well-known Series No. 2, which is recommended for use where the focal plane shutter is used; the apochromat, which is especially designed for processwork and more particularly for three-color negatives in which special attention has been devoted to getting the red, the blue and the green rays to perfectly coincide so that the negatives made through such lenses may all be in perfect register with each other. Prisms for use with this lens are also included in the catalogue. Altogether, this booklet will prove to be a very interesting one.

JUST A REMINDER.

I would like to say something that I think may help some one. Too much care can not be taken of plateholders, and they should not be left with the slides out, as they are very apt to collect dust of all kinds. For instance, any developer or hypo spilt on the floor creates very fine dust that flies around with every movement, and the specks, should they land on the plate, will certainly cause trouble. Again, do not use the same brush for dusting plates that is used for negatives, because the latter, being more exposed, are very apt to catch many hurtful particles which, of course, will be transferred to the plate by means of the brush. In photography the old adage certainly holds true that, "Little foxes spoil the vines." If one gets imperfect negatives imperfect pictures are certain to follow, and a little care at the beginning will avoid a great deal of trouble at the end.

RUTH BERWIN.

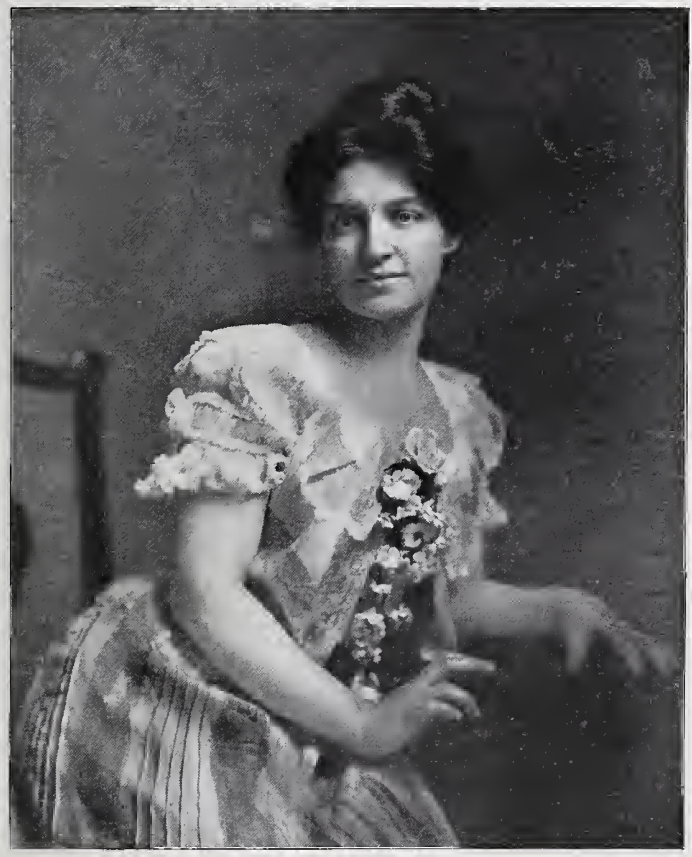
PICTORIAL PHOTOGRAPHY.*

BY LUCIUS W. HITCHCOCK.

CHAPTER XII.

CONVENTION PORTRAITS.—CONTINUED.

The portrait by Dudley Hoyt, Fig. 29, published with this issue, is another good example of the pleasing effect of varying the light so as to subdue a part of the picture. In this case the hands have been allowed to soften off into the shadow in a very agreeable fashion, one being slightly darker than the other. In this case, the subject having very beautiful hands, this treatment might be questioned by some, but to me it is all right. On the other hand, consider what a God-sent trick it would be if the subject's hands were hopelessly ugly.



Dudley Hoyt, Rochester.

Fig. 29.

You all know that hands, even good ones, are hard enough to get anything out of, and it seems to me that such a treatment as this would be the easiest and at the same time, the best way out of a bad job. I am greatly surprised that photographers have not used it oftener than they have.

The portrait by Parkinson, published in the catalogue and reproduced here, is another scheme of the same kind, and is very effective. In this one, like the portrait by Mr. Dudley Hoyt, the light has been subdued on the lower part of the picture.

In this case, too, the hands and arms

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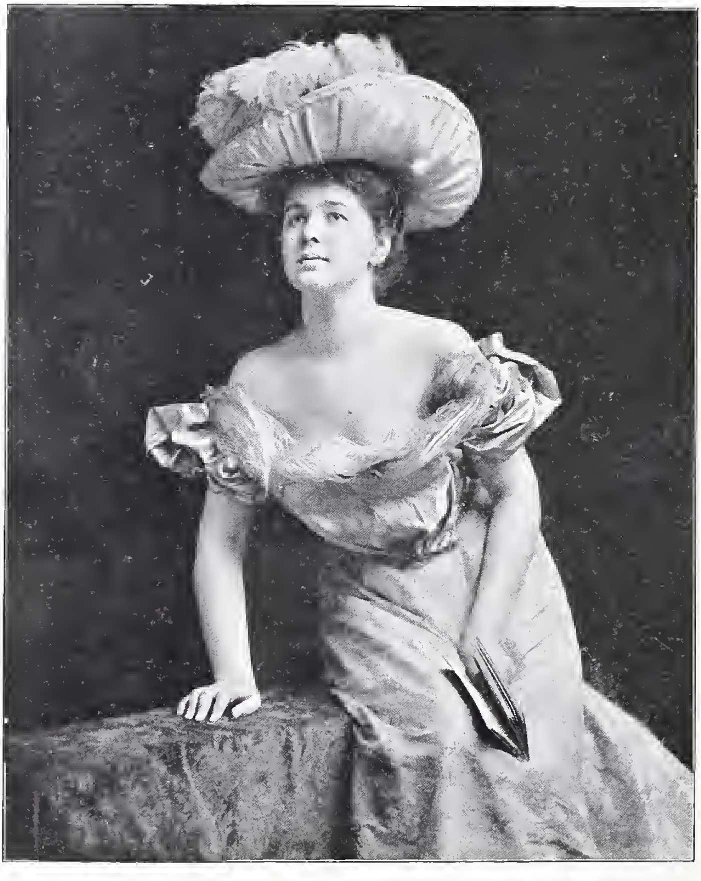
*Copyright, 1902, by F. Dundas Todd.

were beautiful, though the hand on the bench certainly was not posed to the best advantage, but the softer light seems to take away none of this charm, while if they had been ugly they would have been much less conspicuous. The simple bust portrait by Mr. Appleton, published with this issue, is a strong, bold portrait and yet it has much that is delicate and charming. I wish to call your attention to the way the hat is brought against the background. Notice its edges in particular. The way in which they are lost and accented is very plastic and has quite a painty quality. It is easy enough to lose your edges when part of your figure runs off into the shadow, but out in full light it is a much more difficult thing. It then becomes necessary to so manipulate the background that it will, in places, be exactly the same value as the hat; thus losing the line. In this way the outline in such places will melt into the background and form a soft and agreeable contrast with the darker or lighter edges that come into sharp contrast with it.

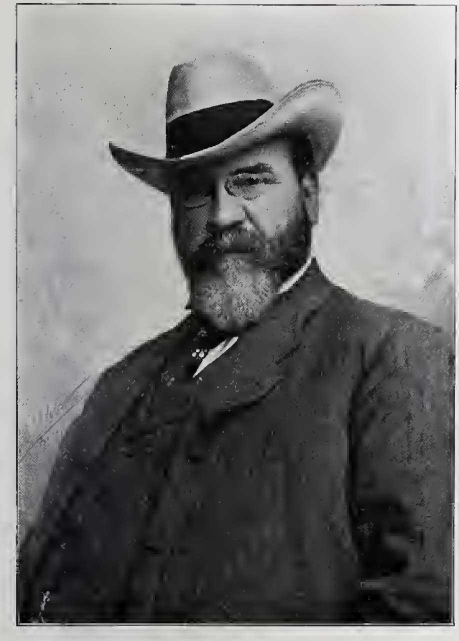


M. B. Parkinson, Boston, Mass.

Fig. 30.

Thus you get a great variety into your outlines, even though the figure is in full light.

It is, undoubtedly, harder to get soft plastic qualities with firmness into a light scheme than it is in a dark one, and this accounts for the fact that so many of our best portraits are worked out in dark schemes, but all notes in music are not low and no more are all



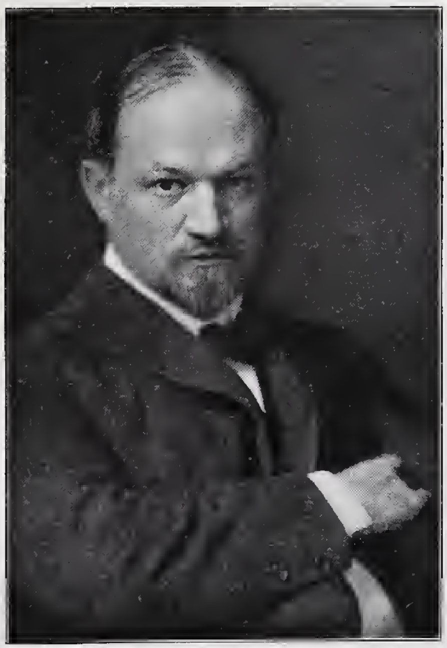
J. M. Appleton, New York.
Fig. 31.

notes in art low. There are light and bright notes as well, and I, for one, would like to see some of these things attempted. It almost looks as though the leaders in "The new photography" had Whistler so much on the brain as to be misled into the idea that a thing must be dark to be artistic. Let us have some good plastic, light pictures.

I publish another picture from the convention, by Mr. Hall. This, like the others, is made more effective by subduing the whites that occur away from the point of interest and consequently detract from it. Many a good picture has been partially spoiled by a staring, white cuff. Study Rembrandt's portraits and see how he subdued the unnecessary white spots in his portraits. Lastly we come to the genre work of the convention.

The pickings were meager and not very good at that. I saw several that I should liked to have published as horrible examples, but Mr. Todd might have found himself in trouble, with a fight on his hands, so that would never do.

I saw several pictures that were partially good, but could have been made a good deal better with certain changes. One I remember particularly. An old fellow fishing from a wharf in front of a very complicated background of tree branches. The light and dark accents in this picture were admirable, but there was so much detail in the background that one found it hard to look at the old man at all, though he was a splendid subject and if given a chance in front of a less boisterous background would have held the attention in a very effective way. As I have said before, "Don't fill all the planes of your picture up equally with interest." The eye must have places to rest. When you take an interesting subject out of doors to make a picture, do not try to make a combination of him, and all the landscape beauties you can find, in the same picture. If the landscape is what you want, well and good; let the figure part be so small as to be only an incident in it; but if the figure is what you want, give it the prominence and use the landscape only as a setting that shall help tell the story and carry out whatever lines of composition you



Hall, Buffalo.
Fig. 32.

may need, but don't let it be so important as to detract from the figures themselves.

There is certainly plenty of material to be had for good genre work if you have the eyes to see it. The picture, "In the Foundry," by Mr. A. Holden, published in this issue, is proof of that if any were needed. The fact is that life all around us is teeming with interest and good picture material if you are looking for it. I like the spirit of Mr. Holden's picture and find it much more interesting than the studio-made article; not but what the picture is open to some criticism, but it shows the right spirit, and if he goes on using his eyes in this discriminating way we may expect great things of him in the future. The power of seeing in the matter of genre work is all-important. Be sure you have the idea for a picture before you try to make one. We are so tired of the pretty girl in scant drapery, holding flowers, that is usually called "Spring"; never mind what it is called. We all know it was made in the "gallery," and has about as much spring about it as a rotten onion.

This sort of thing is hopelessly stupid — there is no doubt about it, and any picture manufactured in this way is bound to be stupid. What you must do is to go to nature for your ideas. If you have the eyes to see and a heart to feel, pictures will be forthcoming.

That is what a painter has to do and you are in exactly the same boat, only you have a machine to do the work and we have not.

Do not fancy that you must take all your pictures in the studio. If there is one variety of photographers' genre work that I abhor it is the one made under a studio light with faked rustic interiors as the background, or painted theatrical settings. The camera's eye is altogether too keen to let any such fake as this pass muster. But let us have some good, honest genre work. The possibilities are great and as yet almost nothing has been done. I am convinced that the man who has a story to tell can do it well with a camera if he has the artistic eye.

THE PRODUCTION OF BROMID ENLARGEMENTS.

The economical and certain production of a bromid enlargement is not an easy attainment to those who have had but little experience in the work, so it is with the object of removing the thorns from the path to successful work that the following method is given.

Serious waste of paper and hopeless disappointments which invariably accompany first efforts have a tendency to discourage further work in this direction, and the abandonment of what is one of the most useful, beautiful, and often most necessary of photographic processes.

One of the drawbacks put forth by those who have been even fairly successful is the great difficulty in obtaining a desired tone in black and white, asserting that all depends upon the negative, which, if it be one of excessive contrast, technically known as "hard," then the bromid print will also be hard; should the negative, on the other hand, be "soft," "weak," or "thin," so will be the print. That this does not always necessarily follow, although true to a great extent, and the remedies for such difficulties I now hope to show.

EXPOSURE.

By some workers correct exposure is regarded as an absolutely essential factor for the perfect rendering of a bromid print. While not denying this as a general rule, I will say emphatically that it is not always the most certain means of obtaining the best results from a negative.

Varied tones and effects may be obtained by modifications of both exposure and development, and should always be made in conjunction with one another; their limits, however, will not be described here, as this article is written with the object of removing obstacles rather than involving complications.

Rodinal, in the concentrated form as purchased, is the developer I use both for this and all my other work, finding it constant and clean and quite free from stain; and being a single solution extremely simple for modification, requiring only the addition of water or bromid, as the case requires.

The following is a normal developer, that is to say, one that would completely develop a correctly exposed print in about two minutes, which is about the minimum time for rodinal. Therefore if another form of developer is used, modifications must be made on the same scale.

NORMAL DEVELOPER.

Rodinal	25 minims.
Potassium bromid 10 per cent	2 minims.
Water	3 ounces.

Alfred Holden, Fig. 33. Philadelphia, Pa.

I, however, never use the normal strength in the first instance unless I have a large number of contact prints to develop, but always commence with what I call the "first-stage" developer, given below.

Prepare the following for a 15 by 12 print:

Rodinal	5 minims.
Potassium bromid 10 per cent	1 drop.
Water (tap)	3 ounces.

This should be quite sufficient for the size of print, and to use a greater volume is not only unnecessary, but makes it difficult to pour back into the measure without spilling. Drain the water from print and flood with developer; the image should appear in about two or three minutes very weak and ghostlike, and as this is the all-important stage it should be carefully watched. This is the first stage of development, and should be continued till the details in the shadows are just visible, when the developer must be poured off, and the print flooded with water and left in it till the new developer is prepared. The appearance of a correctly exposed print at this stage is very similar to that of an overexposed platinotype before development.

Having arrived at the first stage, we now have the option of finishing the print in any tone desirable, ranging from the most delicate of dove-gray to the deepest of the much-coveted (why I don't know) velvety blacks.

For a soft gray tone add to the developer:

Rodinal	5 minims.

Drain off the water from the print (which will have continued to develop slightly), and continue development till complete, which should be in about four or five minutes. If the image contains an excess of deep shadow, more rodinal may have to be added to completely reduce the silver; there is no fear of carrying the development too far, as a correctly exposed print can not be overdeveloped when using a weak or normal developer.

For a more vigorous tone add to the original developer:

Rodinal	30 minims.
Potassium bromid 10 per cent	5 minims.

Development should be complete in two or three minutes, and here again, if there be a large proportion of deep shadow and the image shows a tendency to hang fire, more rodinal must be added, and development continued till any muddiness of the shadows disappears, and they assume a clear depth of tone as the required vigor is obtained.

"Almost as good as a platinotype; could hardly tell the difference," is a criticism commonly expressed on a bromid print by those who know little or nothing about the process, and whose work would assuredly make the bromid process, were it human, hide its head in shame. It is absurd. When properly worked, with its power of range and variation, exquisite beauty and delicacy of tone, bromid paper has no rival. Its manufacture is an art, which, by the way, is not possessed by all makers.

ERRORS IN EXPOSURE.

One of the most valuable attributes of bromid paper is the facility with which errors in exposure may be corrected, and with careful manipulation, to such an extent that incorrect exposure thirty per cent either way may give no anxiety for the quality of the finished print.

If a print be underexposed, the details at the first stage of development will be hardly visible, while the high lights and shadows will show greater contrast, there being little or no half-tones present at the weak state of the image.

Prepare a fresh developer as follows:

Rodinal	5 minims.
Water	3 ounces.

Continue development as far as it is possible. Do not be afraid of staining the paper with prolonged development, as the developer is too weak to do any damage in that direction, especially if rodinal is used, which would not stain if the print were left in for hours. On the other hand, keep well away from the light, which, however safe, always has some effect on the emulsion; and if the time required be very long, say half an hour — I frequently take an hour or more over the first stage of development — it is advisable to cover the dish and give it an occasional rock.

If using rodinal never add bromid to this developer except in very warm weather, and then only a drop to prevent chemical fog; other developers, notably metol, may require it, but only sufficient to keep the whites pure.

When developed as far as it will go, add to the developer:

Rodinal	10 minims.
Potassium bromid 10 per cent	1 drop.

This should be sufficient to give the required depth of tone in five to ten minutes; if, however, there be a tendency to hang fire, a fresh developer of the same composition should be applied.

The object aimed at is to secure all the detail possible without producing the hard "chalk and soot" appearance characteristic of underexposure; the weakness of the developer and prolonged immersion has the tendency to bring up the detail and keep the image soft.

Overexposure may often be regarded more in the light of a friend than an enemy; but in this article I shall treat it as a foe to be overcome by dexterous manipulation.

When known to be excessive, the developer for the first stage should be modified thus:

Rodinal	5 minims.
Potassium bromid	5 minims.
Water	3 ounces.

(With slight overexposure, reduce the potassium bromid by half.) This will take some considerable time to reach the first stage, but patience must be exercised if success be desired; if, however, it takes longer than five minutes, add another five minims of rodinal.

The first-stage image will differ from the correctly exposed print in that probably all the details of the shadows will be visible, while there will be little or no contrast; the whole presenting a very flat appearance.

Add to the developer:

Rodinal	40 to 50 minims.
Potassium bromid 10 per cent	10 minims.

Watch the image under the action of this developer very carefully, as I have sometimes found it to act in a very peculiar manner; the cause of which I have as yet been quite unable to discover, often finding that a second print, under precisely the same conditions, will not work in a similar way. Upon applying the developer, I have had the print rush off into an overdeveloped state without the slightest chance of saving it. For the beginner, it were better to use a developer slightly weaker, say:

Rodinal	30 minims.
Potassium bromid	10 minims.
Water	3 ounces.

This will have a tendency to make the finished print rather flat, but it can be remedied by intensification, the formula for which I will give later. Whichever modification is used, continue development carefully without getting too near overdevelopment, which is very difficult to remedy successfully.

If there is any tendency to "hang fire," add a little more rodinal till the necessary depth and vigor are obtained. —*The Year Book of Photography.*

C. Winthrop Somerville.

Negative by R. M. Sears, LaGrange, Ill.

THIRD PRIZE.

Positives on opalescent glass may be made by immersing the negative after it is fixed and washed in a solution of water 7 ounces, mercuric chloride 100 grains, hydrochloric acid 150 minims, sodium chloride (salt) 50 grains, and ferrous sulphate 50 grains. It is left in this till it becomes white, then washed well and left to dry. Once completely dry, it is covered with a layer of black varnish on the film side, thus giving a very pleasing positive.

A FEW HINTS.

If one were to ask most amateurs what they considered the most common defect in their negatives, no doubt the majority would answer that pinholes gave them the most trouble. The writer is acquainted with several amateurs who have tabooed certain makes of plates, solely because they thought that there were more pinholes in them than in other brands.

These "punctures" have various causes, such as: dust settling on the plate, either before exposure or before development, air-bubbles in the gelatin film, and only recently some writer has told us that they are caused by fungus growths, which seem to thrive in gelatin emulsions. But the principal cause, especially of the large and most troublesome ones, is the formation of air-bubbles on the surface of the gelatin during development, which prevents the chemicals from acting on that part over which they lie. It seems that the gelatin holds a certain amount of air in its substance, which, when the plate is immersed in the developer, tends to rise to the surface of the film when it is softened, and remain there in the form of minute bubbles. Now, the remedy for this is obvious. With a soft brush or wad of cotton go carefully over the surface of the gelatin once or twice after it has softened slightly, and you will find that your troubles from pinholes will be reduced to a minimum. Care must be taken, however, to avoid scratching the gelatin with too stiff a brush.

I have not had a real pinhole occur on any of my plates since I tried the remedy given above, which was told me by a friend. The only remedy I have even seen mentioned in print prescribed the dusting of each plate, either with a soft brush or a sharp puff of breath, when filling the plateholders and before developing. I tried both these methods, but found that neither was a panacea for the evil. So, having found a cure, I concluded to let my brother amateurs know of it, as it does not seem to be generally known.

It is a well-known fact that the speed markings on the various cheaper kinds of shutters are unreliable, for, if they are tested with a shutter tester, most shutters will be found to work slower than the indicated speed. But of late the writer has noticed that, like most things, there is a right way and a wrong way of making these tests, and one who is conversant with the practical working of the shutter can obtain a speed more nearly approximating the markings on the dial than if the tests are made by one unskilled in their use.

Take, for instance, a simple type of shutter, usually supplied with the cheaper grades of folding hand cameras. This has a little lever at one side, with an arrow pointing to one of the three letters, T, I, or B, which signify respectively time, instantaneous, or bulb release. This shutter, under various names, has attained an enormous popularity in the last few years. Now let us see what results it gives in practical work.

When we wish to focus on the ground glass of a camera equipped with one of these shutters, we, of course, set the lever at T, and open the shutter. If the exposure is to be an instantaneous one, we close the shutter before setting the lever at the letter I. Now, here is the weak point with this, as with many other shutters. In moving the lever, or speed regulator, we disarrange in some way the interior mechanism, so that when the bulb is pressed for the first time, the shutter does not operate at its proper speed, but if the bulb is pressed a second time without changing the speed lever, the shutter will, in all probability, work at a much higher speed.

The writer some time ago bought a pocket camera with one of the above-described shutters, and suspecting this fault, made tests, which verified his suspicions. After changing the lever from T to I, the first exposure gave a speed of 1-25 second, according to an accurate shutter-tester. Then, without altering the speed-lever, another exposure was made, which gave a speed slightly over 1-50 second. In photographing a man leaping over a fence, the first exposure showed a considerable blurring, on account of the rapid motion, but the second exposure, for which another leap was made, showed the moving figure sharp and full of detail.

This is a peculiarity of many shutters, especially those of the automatic variety. Indeed, in some the difference in speed between the two exposures is so great that it is even visible to the eye. At first sight it seems a defect, but it is not really so, for in the cheaper shutters it gives us two speeds for instantaneous exposures, where nominally we have only one. In the better class of shutters, the dial is marked with several speeds for instantaneous exposures, and if we wish to obtain the indicated speed at which it is set, we must work the shutter at least once before withdrawing the slide from the plateholder. Neglect of this precaution is often the cause for most shutters being found to work slower than their markings read; but by keeping this fact in mind, one will be much more liable to secure satisfactory results when photographing objects in motion.

Negative by Mrs. W. W. Pearce, Waukegan, Ill.

Another word about shutters. On most of the popular kinds, the highest speed-mark is 1-100 second; and, when photographing objects in rapid motion this speed is entirely too slow. If the amateur possesses a Unicum shutter, or one of that variety, he can easily double or even triple the speed by a simple device. On the top of the speed-dial is the setting-lever, a small knob which is pressed down when setting the shutter. By fastening a rubber band to the front of the camera, and slipping the other end over the setting-lever, we can increase the tension of the spring to any degree we wish, thereby increasing our speed. But be careful that the tension is not too great, or the entire shutter will be racked to pieces. It is better not to use this device too often, and then only for good cause. This is an old trick, but seems to have been forgotten in recent years, for I have seen no mention of it in the photographic journals. W. A. H.

NEW MOUNT FACTORY.

The other day, while in the establishment of Burke & James, we were shown some of the machinery which they are now installing for the manufacture of photographic card mounts. They have two presses now in operation. One of them is exceedingly powerful, weighing about fifteen tons, and heated by steam. It is of the very latest and most powerful type, and suitable for embossing all kinds of photographic card mounts. They have two other presses which can be used for the same purpose. They are also equipped with cutting-knives and other apparatus suitable to carry on this industry in a thorough and perfect manner. We were shown some of the work that they have already turned out, which appears to be of excellent quality. They intend to make a full line of all kinds of professional and amateur cards, and to use new and original designs.

"Every line of THE PHOTO-BEACON (advertisements and all) is perused with interest, and found very profitable."

WILLIS M. FLANDERS, Denver, Colo.

MY EXPERIMENTS.

CHAPTER XII.

A good photographer, and by that term I mean, in this case, a good free-hand mixer of photographic dope, should be a good cook — he should contain within himself the elements of a *chef* of the first magnitude. The instinct that guides him in squirting just the right amount of bromid solution into the developer from a bottle of unknown contents, or in building up a competent developer with a spoonful of the agent, a handful or so each of sulphite and carbonate and "some" water, is analogous to that of the cook who flavors his *sooy* with a pinch of this, a lump of that, a chunk of something else and a bunch or two of a few other things, obtaining thereby a savory and succulent *olla podrida* that is fit to offer to the manes of Lucullus.

Now, while it is undeniable that surprisingly good results are ofttimes obtained by such hit or miss methods, whether the mixer be a knight of the camera or a prince of the pans, still, it is not a method that can be recommended for general use — it is too dangerous, especially if the cook and camerist happens to be the same person — besides which it is not a good method anyway.

I, personally, am one of the best spaghetti editors who ever compiled an edition of that comestible, *a la Napolitaine,* and my experiments in cooking have been as varied as those in photography. A vagrant recollection of one of them is what suggested the foregoing.

I came home one day and found a note from my wife telling me that she and her sister had gone shopping and would not be home until late and that I was to do the best that I could for myself in the dinner line and leave a little for them.

I had an inspiration. Somewhere or other I had heard or read about a potato cake. I had never seen one and did not have the faintest idea as to what it was like, but I knew that it was good —had to be good — sounded good — something appetizing in the mere sound of potato cake — and I knew that I could make one. Dead easy — don't you suppose I know?

As a preliminary, I washed and peeled about as many potatoes as I thought could be eaten by three hungry people at a sitting — which was several. Then I boiled them. Next I mashed them with a little salt and thought over what I would better do next.

Milk ought to be good. Yes, guess I'll put a little milk in.

How about an egg or two and a little butter?

Sure thing — in they go — and then "some" flour and — oh, yes, a "little" baking powder.

Let's see — where does she keep the baking powder? Up there in the closet, wasn't it?

Oh, yes, to be sure, of course — there is the box now.

Potatoes, eggs, milk, salt, flour, baking powder and butter — an elegant mess, I don't think — and when it gets to puffing up and getting a delicate, sunny brown all over!

I tell you, it takes a man to do the cooking right, right up to the handle — women are not in it — I'll just wait until about a quarter of six before I shove

Negative by Z. N. Barnes, Little Falls, Minn.

it into the oven and it will be done by the time they get home.

I waited until the right minute, getting a good hot oven in the meantime, and then inserted the pan.

The women folks returned earlier than I expected them to and were surprised to find me in the kitchen watching the stove.

I told them never mind what I was doing, but finally — it was too good to keep — I confided to them that I had what was very probably the finest potato cake that ever happened arriving at maturity in the oven.

They wanted to know what was in it and I told them. I could see the water glistening in the corners of their mouths.

The Mrs. wanted to know if I had looked at it, and I said "No — it has only been cooking for about an hour and it is a big one."

"Only an hour! exclaimed she — "Why, it will be burned to a cinder — I'll just look at it."

She opened the oven and then fell over on her back. Something bluish-white came out of the oven and filled the room.

I picked the Mrs. up and carried her out onto the porch, closely followed by her sister.

When she got her breath back she said things to me.

"What on earth have you got in that oven?"

"Oh, I know — I know"— and she laughed. She laughed a boisterous, unfeeling, unwifely, aggravating laugh, and laughed it until she was all out of laugh, and then she told me.

With the abnormal sense of the utility of tin boxes that is peculiar to woman, it seems that she had taken a baking-powder box — full label — and filled it with flowers of *sulphur*, and left it right there on the pantry shelf, and I, not knowing the difference, had been trying to "raise" my potato cake with sulphur.

Now, this is the sort of trouble that the photographer is apt to get into when he neglects to label every box and bottle that he keeps in the darkroom. He, of course, may know just where to lay his hand on the precise thing that he is after, label or no label — my wife would not have taken the sulphur for baking powder — but somebody else might get into your darkroom sometime and scramble things for you and you'd find hypo in the carbonate bottle or catch yourself retarding the developer with a few drops of intensifier, or doing some other foolish and unexpected thing.

Label your bottles, label your boxes; weigh every dry chemical that you use; measure every liquid, and then, as a sort of a precaution, keep the other fellow — any other fellow — out of your darkroom.

Well, this is to be the last experiment recorded in this series. I have given you a pretty liberal dose of iron thus far and think that a switch to developing paper may help to take away the iron taste.

I will not say that all developing papers show an occasional tendency to chemical fog — as a matter of fact, no one person is competent to make such a broad statement as that — but certain it is that all brands that I have tried have, at one time or other, shown such a tendency.

This chemical fog is observable when, having masked it while printing, the margin of the print which, after development and fixing should be pure white, is, instead, of a grayish tint.

Now, while such a fogging may be due to the fact of the paper having been handled in too strong a light while, say, opening the package or while adjusting it to the negative, it is just as apt to be due to a chemical imperfection in the emulsion.

In the latter case the fog is a true chemical fog. In the former it is a simple case of "light struck." Remedy, be more careful.

Chemical fog — true *chemical fog* — in developing paper (unless brought about by improper development — hypo in the developer, for instance) can be due to but one thing — just one thing — and that is to the presence of free nitrate of silver in the sensitive film.

When the emulsion is made (whether

it be a bromid or a chlorid is immaterial) a certain amount of a soluble haloid salt is incorporated with the melted gelatin and then some nitrate of silver is added.

The silver and the haloid salt react with each other and the result of the metathesis is an emulsion containing bromid or chlorid of silver, as the case may be, and a nitrate of potassium or sodium.

If a careful chemist made the emulsion the silver and the alkaline will just balance each other. If he be not a careful chemist he may have an excess of either one of them, and, if it happens to be the silver that is in excess, the result will be a run of paper that is sure to give a chemical fog in the developer.

Negative by Lonie H. Lauritzen, Chicago.

Now, since if there is no free nitrate of silver in the paper, the careful photographer can develop it without obtaining marginal or "high-light" fogging, it follows that if he can get rid of the free silver *before development,* he can surely make clean prints.

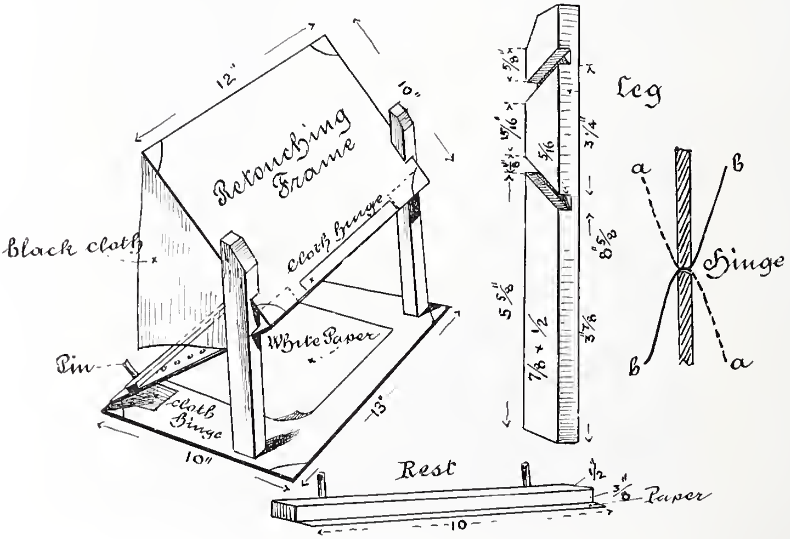
The method is simple, and as sure as it is simple.

Make the exposure in the customary way and then *before placing it in the developer* soak it for one minute in a tray containing eight ounces of water and one-half ounce of a 10 per cent bromid solution. This will convert all of the free nitrate into bromid of silver and, contrary to what might be expected of it, the tone obtained in the developer is just right — blue-black and not greenish, as would be the case if the extra bromid had been added to the developing solution.

The above is not *one* of my experiments — it is the result of several of them. RALPH MARTIN.

RETOUCHING FRAME.

Sooner or later each amateur finds out that the best of plates are not perfect.



His best negatives are often marred by pinholes or spots of some other kind. His portrait photographs of his lady friends are received with coldness, because the best and most satisfactory of them are often peppered with freckles, or appear with a coarse and uneven grain in the shadows of the flesh. All this means that the amateur, if he wants fine prints, must retouch his negatives when faulty. The methods are fully described in your books on photography, and the other text books, and can be read there.

To retouch correctly, one must have a retouching frame, and in making for myself a frame that should be portable and cheap, suitable for amateurs, I hit on the apparatus, which is shown in the accompanying sketch, and was made with a penknife, paste-pot and some old ink covers.

The pasteboard for the three leaves of the frame are the covers of old books. The legs are of pine wood, and, as shown in the sketch, are removable, when the whole folds up flat for storing away. The hinge is of particular value; it is not new, but makes a hinge as good as a brass or iron one with screws. A A and B B are separate strips of any suitable width of cotton cloth, and are bent down from the position shown in the sketch and pasted to the boards. The rest is a strip of pine wood, with a strip of thick paper wider than the strip of wood, and pasted on the under side. This keeps the negative from slipping under the rest.

The pins I use for carrying the

rest are made of matchwood — burnt matches — and fit in holes bored ½ inch apart, near the ends of the middle leaf of the frame, permitting of adjustment of the rest.

Finally, a hole 2½ inches square, cut in the center of the middle leaf, lets light through to the negative. The inside surfaces of the top and middle leaf are papered with black paper that comes in the plate boxes.

The whole cost of this frame is nil, and is found a valuable adjunct to any amateur's outfit. M. MEIGS.

Negative by Louis Fleckenstein, Faribault, Minn.

THOUGHTS AFTER HOURS.

Amateur photographers, how many of you ever filter your solutions? I see very few hands held up, and yet this is one of the most important duties that you owe to the art.

After developer has been used a few times minute particles of dust from the air, and chips of glass from the plates take up their abode in the solution, and cling with loving tenacity to the sensitive surface of the negative, which, after being held under the tap, shows a beautiful collection of pinholes and straight streaks, caused by the water washing out the dirt with portions of the film attached to it. Then there is a gnashing of molars, and the operator tries another brand of plates.

Some time ago a report was circulated that an amateur had been found who had acknowledged that the pinholes in his negatives were due to carelessness on his part, and that the platemakers, in grateful appreciation of his honesty, had presented him with a diamond sunburst. The report has not as yet been confirmed, and this paper does not vouch for its truth.

The proper way to do is to filter every solution as soon as you are through using it. You have probably read of this before — then why not act?

We came upon a poor chap recently, who did not know what filtering meant, but he was not a subscriber to a photographic magazine.

Filter your thoughts before you speak them!

Filter your solutions before you use them!

A young man came in the other day and passed out a dirty yellow-looking print for inspection.

He said it was on a certain brand of developing paper that he had bought and that he thought the developer we had sold him was very "bum." We restrained ourselves, and asked him to explain how he had obtained his piece-de-resistance. He said, "I exposed the paper, poured the developer over it and then let it soak in water for fifteen minutes." We tied our hands to the knob of the safe and said as softly as our emotions would allow, "Did you not fix the print in hypo?" "Nay," he answered, "should that be done?"

He had seen the directions in the package, but had not thought it worth while to read them, and he is not the only one. O gentle readers! If you could stand behind the counter of a supply house for a week and listen to the tales of woe from the wise ones, who do not read directions, you would become case-hardened cynics. You would hear the complaint of the man who had always been using printing-out paper until he heard of bromid, and who in the innocence of his heart had tried to use the same methods with that, and failed, oh so dismally! And of the poor young lady who had burned her hand the first time she took a flash-light, because she didn't know what the fuses in the box were for. And of papa's darling, who had opened his first box of plates 'neath the glare of the arc light, to see what made them so heavy. All these you would hear and many others that would reach deep in your soul, and gnaw at your reason, and you would exclaim in bitterness, "Dark, indeed, is the understanding of him, who, having obtained the gifts of the Lord, does not apply them to his needs."

Just at present there is a wave of economy (?) sweeping over the country. The amateur is continually wanting something cheaper, and the manufacturer is endeavoring to accommodate him both in price and in quality. Never before in the history of photography were the prices of cameras and supplies as low as they are at present. We hold our breath and ask, "Where will it end?"

The manufacturer says, "The great popularity of photography making such an increase in demand, together with our improved methods of manufacture, enables us to list our goods at a much lower figure than ever before."

When you read the glowing descriptions in the catalogue and then figure on a good discount from the list price, you begin to think that the good man is after recognition in the rôle of a philanthropist. But it is all foamy, creamy froth, dear John! When the price of an article gets below normal, the quality is seldom found lagging far behind. Varnish and glitter cover a multitude of sins. Beware of the wolf in sheep's clothing! Mere cheapness is extravagance in disguise!

Everybody seems to hold their own opinions as to art, as is manifested at every exhibition of photographic endeavors. From my point of view, of course, many of these enthusiasts are in error. I hate to see nature distorted and twisted up as some take pleasure in doing, for the mere sake of presenting something odd that will invite criticism. It seems that many photographers are trying to imitate the poster effects in landscapes — those fuzzy, degrading "November sunsets," or "Spring days" that we stand amazed at; which show Nature as she is not, and as she has no desire to be.

The continual searching after new effects is leading legitimate photography into strange byways. We can only stand by and pray that she will not be lost in the maze.

The true lover of Nature likes to see a tree represented as a tree and not as the distorted shape that a fevered imagination conjures up.

In my humble opinion, no one has as yet succeeded in improving upon Nature, and if I am right, Nature stands as a model which we may try vainly to imitate in our poor way, but which we have no right to change to suit our individual tastes.

I have seen some intelligent-looking people fall in a fit before some much praised and bemedaled monstrosity, and I have gone forth into the night, weeping for dear old Nature, who has to bear it all so patiently, and can not strike back. One of these days a great many of my friends will wake up to the fact that photography, judging by their results, is an expensive luxury. Some of them will at once proceed to give their camera to some favorite enemy, while those who are not adverse to thinking will look over their pictures and try to find a reason for their ill success. Intelligent thought directed to the solution of a problem is seldom barren of results, and I feel certain that in this case, the expenditure of gray matter will be amply compensated for, when the truth is made manifest.

The majority of my thought class will then begin to feel that a tripod and time exposures are the proper remedies to administer, and applying these intelligently, poor old sick photography will be given a new boost in life, and the plate factories will not work overtime so much. So many people think that it is such an awful load to carry a tripod, but they do not complain of the money they have to carry down to the supply house for plates, which afterward are used to bedeck the ash pile. The past season I have developed perhaps five hundred plates for amateurs, who had not the time. Most of these were snapshots, and I do not believe a third of them would make acceptable prints.

I have seen people walk out of the store with new cameras under their arms, with happy smiles on their lips, at peace with all the world. I have afterward listened to their tale of woe, examined their negatives — some with faint traces of a picture upon them. I have tried to impress upon them the law of light value, though I knew in most cases it was a waste of breath, for there is a mania for the fast shutter, which no amount of reasoning can dispel. I have had them come back at gradually increasing intervals, until at last they came no more. Continual disappointments had discouraged them, they had thrown aside the most interesting pastime that science can give to her earnest devotees, and were again at the old routine of looking for pleasures that come without thought or effort.

Do not become stagnant! Nothing will come to you without the willing. Do not be satisfied with ordinary results. Anybody can take a picture — you must take it better than anybody, and still not be satisfied.

It is the dissatisfaction with your work — the constant effort to do better — that will give you all the pleasure that photography or anything else holds out. We were all born to be dissatisfied, so that we might ever strive for higher things, with Heaven at the top. Keep moving or you'll get stuck in the mud.

WALTER G. TEUTON.

MAIL buyers will read Andrew J. Lloyd & Co's advertisement relative to their 1902 Encyclopedia with some interest. Every one who has seen this very excellent compilation will wonder how it *can* be sent for 20 cents, when the postage alone is 15 cents. It is altogether too valuable a book to miss.

THE DEVELOPER AND ITS CONSTITUENTS.*

BY A. K. BOURSAULT.

CHAPTER VIII.

PER CENT SOLUTIONS — PREPARATION OF DEVELOPERS BY HYDROMETER TEST.

For advanced amateurs or for such photographers as engage in experimental work, or are, by the nature of their work, obliged to use several brands of plates, it is a very good plan to have always at hand ten per cent or twenty per cent solutions. This avoids the necessity of mixing up a new developer every time they change their plates or of keeping on the shelf a great quantity of different stock solutions to suit each maker's formula. As has been already pointed out in a previous chapter, a ten or twenty per cent solution is one that contains for every one hundred grains of water (or other liquid) ten or twenty grains of the solid chemical it is made of. But for all photographic purposes concerning development, we may neglect the slight difference between grains and minims, and consequently substitute one hundred minims of water for the one hundred grains. It will be perceived how easily we can then prepare any developer to suit without any weighing, by simply measuring in a graduate a certain amount of solution, and how convenient it becomes also to make instantly all modifications required.

Supposing, for instance, that we have made up a ten per cent solution of pyro, a ten per cent solution of soda and a ten per cent solution of sulphite, and that we have to compound a developer which should contain for every liquid ounce

Pyro	2 grains.
Sulphite	15 grains.
Soda	12 grains.
Water to	1 ounce.

we simply take:

20 minims of our 10% pyro solution.
150 minims of our 10% sulphite solution.
120 minims of our 10% soda solution.
190 minims water.

Does another plate require the following:

Pyro	1.5 grains.
Sulphite	12 grains.
Soda	12 grains.
Water to	1 ounce.

we get it easily thus:

Pyro solution	15 minims.
Sulphite solution	120 minims.
Soda solution	120 minims.
Water	225 minims.

It must be observed, however, that the sulphite and soda solutions ought to be prepared in the form of twenty or twenty-five per cent solutions. Many formulæ will require a larger amount of these chemicals than both previous examples given and then it would be impossible to use these solutions as previously figured on account of the amount of water present which would cause us to exceed the ounce. This will be readily perceived in the following example:

QUANTITIES CALLED FOR BY THE FORMULA.

Pyro	4 grains.
Sulphite	32 grains.
Soda	32 grains.
Water to	1 ounce.

Total amount of developer, 1 ounce.

EXECUTION OF SAME.

Pyro	40 minims.
Sulphite	320 minims.
Soda	320 minims.

Total amount of developer, 1 ounce, 3 drams, 20 minims.

or an excess of nearly half an ounce of water. But if we use a twenty per cent solution of these salts we can remedy matters and obtain the formula as desired, thus:

Pyro .... 40 minims = 4 grains reducer.
Sulphite . 160 minims = 32 grains sulphite.
Soda .... 160 minims = 32 grains soda.
Water ... 120 minims = 20 minims water.
Total amount, 1 ounce.

It will be found, besides, that the greater the state of concentration of a solution the better its keeping qualities.

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*Copyright, 1902, by F. Dundas Todd.

We would not advise, however, in practice too great a concentration. First, because if we come near the saturation point slight changes of temperature might cause the salt to crystallize out, and influence the strength of the solution. Second, because small quantities are not easily measured in the dim light found in many a laboratory, and a slight error, minus or plus, will strongly affect the developer. For that last reason, also, it is better for the practical photographer who does not do any experimental work or change often his brand of plate and methods of working, to make up his developing solutions according to his standard formula, avoiding concentrated stock solutions altogether and make up his solutions according to the equal-part-of-each system whenever same are not intended to be kept any length of time. In the latter case it must be observed that certain photographers want to use the same developer for plates and slow gaslight papers which require a much more energetic developing solution. The developer must then be so regulated that it will give without dilution the proper result with these papers, requiring only the addition of water to suit the plates also.

Negative by E. A. Smith, Heartlake, Pa.

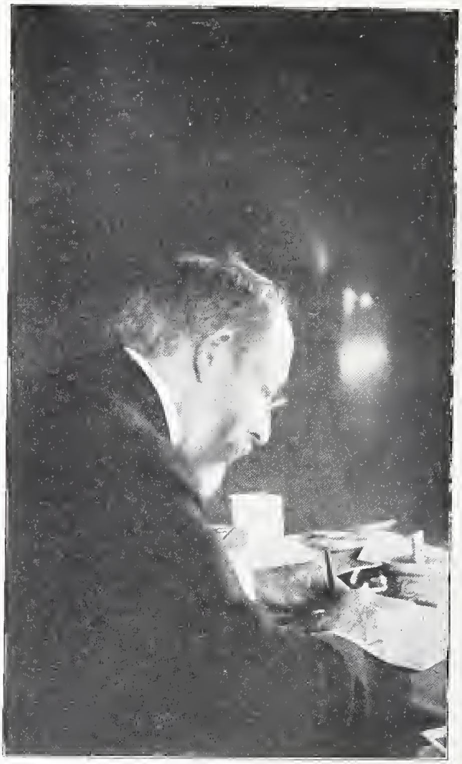
For those who should prefer the per cent system, the writer would advocate the following strengths of solution:

	Per cent.
Pyro	10
Other reducers or 10 per cent according to solubility.	5
Sodium sulphite (dry)	10
Sodium sulphite (crystal)	20

Sodium carbonate (dry)	10
Sodium carbonate (crystal)	20
Sodium hydrate	20
Potassium carbonate anhydrous	20
Potassium hydrate	20
Potassium bromid	10
Potassium metabisulphite	20
Hypo, saturated solution.	

Some of these solutions have more tendency to deteriorate than others and should be renewed from time to time. The carbonates and potassium bromid will keep in a properly corked bottle almost indefinitely.

Another system of making up solutions advocated by many in this country is by hydrometer test. The instrument used for this purpose can be procured in the photographic trade and is sufficiently accurate for ordinary purposes. Better and more correct instruments can be obtained from dealers in chemicals and scientific apparatus. Each instrument should be carefully tested. An easy and simple method of doing this is the following: Make a solution of nitrate of silver, C. P., forty grains to the ounce in distilled water. At the temperature of 59 degrees Fahr. the apparatus should show a reading of exactly 40 degrees. Proper allowance should be made for slight differences or a new instrument procured, in case there would be a material difference in the reading.



Neg. by Mrs. E. W. Willard, Grand Rapids, Mich.

The common type of hydrometer for liquids consists of a glass tube with a graduated scale; a ball is attached to it to cause it to flow in the liquid, and a weight or counterpoise of lead or mercury to cause the stem to stand upright as it floats. The specific gravity is ascertained either by direct reading or by calculation from the reading of the scale at the point which is on a level with the surface of the liquid. The hydrometer for liquids is found in the market in two forms, *t. w.* for liquids more or less dense than water. In the first case the O is near the top and in the latter near the bottom of the stem. It is the first one that the photographer needs in the present instance. The scale of this instrument, as sold by the photographic trade, is divided in one hundred parts and calculated for liquids denser than water. It is the one generally referred to in American formulas. The scientific hydrometers have different scales, the most generally accepted being those of Twaddell and Beaumé, the latter being the more popular of the two. Such an instrument should always be used for all scientific and research work. The gradation of the scale is conventional and the specific gravity is obtained from the reading by means of a series of tables. The average worker, however, need not concern himself with the specific gravity of the liquid. All he has to do is to add sulphite or soda or any other salt to any amount of water placed (not dropped) in the liquid to show the degree number required by the formula. While this method of making up solutions is very popular, and although many will object to the following, it is distinctly the opinion of the writer that the system of preparing solutions by weight and measure is, on the whole, better adapted to photographic requirements than the hydrometer. The successful handling of the hydrometer requires a great deal of care and a very accurate instrument if successful, uniform and exact results shall be obtained thereby.

Following table will give the comparative value of the densities and weights and Beaumé hydrometer readings:

DENSITIES OF SODIUM SULPHITE SOLUTIONS BY ARTHUR H. ELLIOTT, PH.D.

Based upon experiments made specially for the construction of this table, temperature 15° Cent. (60° Fahr.). The gallon is that of the United States, and contains 133.28 ounces of water; the ounce contains 437.5 grains of water. Crystallized sodium sulphite with seven molecules of water is understood in the figures given, and the first two columns give percentage by weight and weight in 100 volumes.

Grams in 100 grams.	Grams in 100 c. c.	Ounces in one gallon.	Grains in one fl. oz.	Degree Beaumé.	Degree Twaddell.
35.1	42.0	51.2	181.0	24.0	40
30.0	35.0	46.6	153.0	21.0	34
25.0	28.5	38.0	122.0	17.0	27
20.0	22.2	29.6	97.0	11.0	17
15.0	16.2	21.6	61.0	10.5	15
10.0	10.5	14.0	46.0	7.0	10
5.0	5.1	6.8	22.3	3.0	4
2.0	2.0	2.7	8.8	2.0	2

DENSITIES OF SODIUM CARBONATE SOLUTIONS BY ARTHUR H. ELLIOTT, PH.D.

Based upon the specific gravity table of Schiff in *Chemiker Kalender*. Temperature 23° Cent. (73° Fahr.). The first four columns give percentage by weight and weight in 100 volumes of the crystals (10 molecules water) and dry salt respectively.

Grams of Crystals in 100 grms.	Grams of Crystals in 100 c. c.	Grams of Dry Salt in 100 grms.	Grams of Dry Salt in 100 c. c.	Ounces Crystals in one gallon.	Grains Crystals in one fluid ounce.	Degree Beaumé.	Degree Twaddell.
50	60.2	18.53	22.31	80	262.5	24.0	40.0
45	53.2	16.67	19.75	71	232.0	23.0	38.0
40	46.5	14.82	17.30	62	203.0	20.0	32.0
35	40.0	12.97	14.83	53	174.5	18.0	28.0
30	33.6	11.12	12.32	45	147.0	16.0	24.0
25	27.5	9.26	10.23	37	110.0	13.0	20.0
20	21.6	7.41	8.00	29	91.5	10.5	16.0
15	15.9	5.56	5.83	21	69.5	8.0	12.0
10	10.4	3.70	3. 5	14	45.5	5.4	8.0
5	5.1	1.85	1.86	7	22.3	2.7	4.0
2	2.0	.74	.76	3	8.8	1.0	1.4

DENSITIES OF POTASSIUM CARBONATE SOLUTIONS BY ARTHUR H. ELLIOTT, PH.D.

Based upon the specific gravity table of Gerlach in *Chemiker Kalender*. Temperature 15° Cent. (60° Fahr.). Dry potassium carbonate is understood in the figures given, and the first two columns give percentages by weight and weight in 100 volumes.

Grams in 100 grams.	Grams in 100 c. c.	Ounces in one gallon.	Grains in one fl. oz.	Degree Beaumé.	Degree Twaddell.
52	81.6	109.0	357	53.0	114
50	77.2	103.0	338	51.0	108
45	66.6	89.0	291	47.0	96
40	56.7	76.0	248	43.0	84
35	47.5	63.0	208	38.0	72
30	39.0	52.0	171	33.0	58
25	31.1	41.5	137	29.0	51
20	23.8	32.0	105	24.0	40
15	17.1	23.0	75	18.0	28
10	10.9	14.5	44	12.0	18
5	5.2	7.0	23	7.0	10
2	2.0	2.7	9	2.5	3

FROM the Camera Craft Publishing Company, San Francisco, California, we are in receipt of a booklet entitled "The A B C of Photography," by an amateur, the writer being Fayette J. Clute, who is well known in the photographic world as a very practical and clear writer on matters photographic. As would be expected from such a one, the book is very plain and to the point and he apparently believes in going into the minutest detail — a very excellent feature, since to the beginner a seeming trifle may look as big as a mountain. At the price of 25 cents this book ought to have a ready sale.

THE Buffalo *Express*, of Buffalo, New York, announces that it has organized a prize contest, open to all photographers, which will be continued regularly. The prize proposition is arranged on an entirely new plan, and readers interested should write the paper for information.

MANY workers do all their printing in the window. The frames will not fall down if the upper half of the window is drawn down a few inches and the frames are stood upon its lower sash, supported at the back by the top sash of the other half.

A DIRECT METHOD OF PRODUCING REVERSED NEGATIVES.

Cases often occur in photographic practice when the use of reversed negatives is absolutely necessary, as for collotype or pigment printing by single transfer, and it is desirable to be able to use a most simple method, capable, however, of giving excellent results.

The author does not claim the following method as new, analogous ones having been published long ago by Obernetter and by Dr. Eder. The bichromate method was first published by Bolas in 1880, and Eder and Pizzighelli maintained from the first that it involved no question of solarization but rather of insolubility of the chromated gelatin.

A recent notice in the *Photographische Chronik,* 1901, in which the solarization method was described, and it was further stated that except the dusting-on process there was no practical method of reproducing reversed or counter-negatives, led the author to think that the excellent old chromate method is still too little known in practice, and therefore might be worth notice. He had occasion in 1893-4 to prove its practical value most thoroughly in preparing reversed negatives for collotype from the negatives of the illustrations to Baron N. Rothschild's work, "Sketches from the South."

For this purpose he used the following method exclusively, and cites Herr Löwy as being able to testify that the results are all that can be desired.

Suitable gelatino-bromide dry plates or films are bathed in the darkroom for two or three minutes in a three per cent solution of potassium bichromate and dried. It is of no consequence if the plates have already been exposed to light, and thus plates can be utilized which would be useless for any other purpose.

The original negative is masked, for neatness, with black paper or tin-foil, and placed face to face with the prepared and dried plate in the copying frame, and is exposed in diffused light until the image is clearly visible at the back.

It is now completely in one's power to produce a brilliant negative from a flat one or a soft one from a hard one. With short exposures the results are soft, or even flat, while longer exposure gives brilliancy going on to hardness. This result, so opposed to ordinary conceptions, is produced by the hardening of the chromated film, which naturally increases with the lengthening of the exposure.

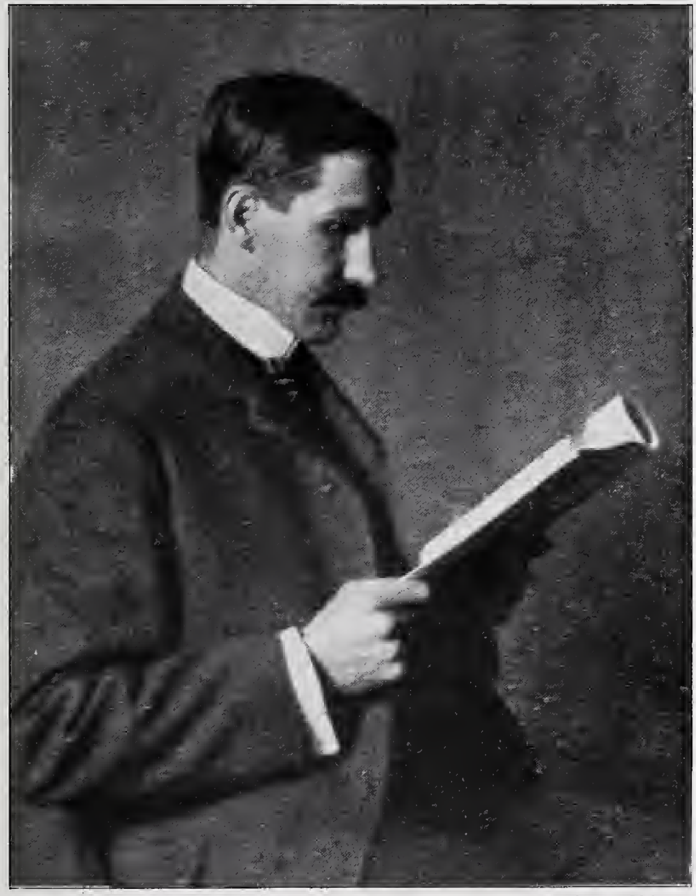
When the proper exposure has been given, the plates are washed in the darkroom until the last traces of yellowness from the chromic salt in the film are removed. (The author leaves his plates washing all night.)

The plates are developed with the well-known ferrous oxalate developer, first being flowed over with the developer in the darkroom, then taken out into full daylight and the further development carried on in subdued light. It is often recommended that the plate should be exposed for a moment to daylight after washing and then developed in the darkroom; the author has, however, found that working in daylight is in every way more reliable, and in any case more agreeable. When the desired intensity is obtained, the plates are well washed in the dark and then fixed and washed in the ordinary way.

A. L. EBERT.

THE ROMANCE OF A DRY PLATE.

Who can look on the creamy, virgin surface of a bromide plate, freshly taken from its hermetically sealed box, without sometimes pondering over the infinite possibilities of graphic portrayal which lies hidden in that delicate film? Or who can watch the development of a dry plate, noting the gradual growth of the image with all its subtle gradations of tone out of apparent nothingness, and never ask himself what is the nature of that weird, magical impression so aptly termed the "latent image?" Lying hidden in this phase, one would almost say, is contained the keynote of photography. The very manufacture of the plate is carried on in a "dim, religious light," or even in total darkness; it is carefully protected from all light from the moment of its completion until its user places it in camera or dark slide; here it lies hidden still, it may be for some days or weeks, until suddenly a beautiful picture, painted in all the colors of nature. flashes for a moment on its surface and is gone — gone, but not without leaving its impress of atom-disturbing energy.



Negative by John W. Schuler, Akron, Ohio.

And what is this image, this mysterious image unseen by human eye? It lies hidden in a membrane of exceeding thinness, simple to the eye, more complex when seen through the strong vision of the deep-seeking microscope. A bed of small, creamy grains (half a thousand may lie like a string of beads in the compass of a millimeter), each an island cut off from its million neighbors, meshed about by the many-functioned, gelatin-cement, support, foundation, giving added delicacy. So far the mechanic. But what of those tiny grains, each a potential seat of the unperceived mystery? Each is a building whose cunning architecture defies the understanding, lying hidden in the infinite unknown. Yet, with a bold bid for knowledge, may we not make a half guess at the truth? The undiscerned change is the loosening of the stones of the temple which precedes its final overthrow.

Ninety odd million miles away, in the depths of the tenuous ether, floats the glorious sun, throwing its beams across the vast abyss of space. Down through the ambient air of our common earth flashes the glad sunbeam — touches the landscape with silver and gold, forms the velvet shadows, and throws into relief nature's beautiful embroidery. Straight as a shaft from the bow the reflected rays, telling of purling brook and placid lake, of hill and valley, copse and glade, and tender distance, converge on the camera, are caught up by the clear lens (marvelous product of deep mathematic thought and rare mechanic skill), are refracted by the arching surfaces, and thrown in perfect order on the silver bromide film. Rays of light, minute undulations of the all-pervading ether moving with inconceivable velocity, bridging the unthinkable chasms of space, lying hidden in existence, revealed in destruction — these supply the working power employed by the photographer; these convey the energy which loosens the atom-bonds of the metallic salt. Twice a thousand impalpable wave-crests expand their serried ranks in a millimeter span. Ten thousand million of these tiny ethereal billows must break on that filmy shore of white argentic grains ere the first faint shimmer of change sets in, and a thousand times more than these may well arrive before even so sensitive a material may respond to the gross action of the chemical solution. And, if we had the fine eyes of all-seeing nature, what wondrous movement of atom and molecule might we not perceive, as the velvet-soft yet irresistible ether-energy bears down on the silver-bromine system! What infinite precision of harmony between wave-beat and atom-beat, and the quick, centrifugal swing, the outward strain of atom from atom! And then the swift eclipse, the instant arrest, and the molecule is left, a molecule still, but changed, a thing unstable, an easy prey to the coarser chemic energy of the reducing fluid. And the breakdown of one infinitesimal system of silver-atom and bromine-atom, like the quick flash of the percussion cap to the charge in a mighty gun, sends an instant tremor, a cataclysm of disruption through a hundred billion of its compeers — a hundred billion of its fellows drawn together by the force which fashions the solid foundations of a planet out of minute, separate entities into a single tiny particle. And there is left an equal grain of pure silver, whose unpolished surface denies the familiar gleam of metal, yet serves the better its predestined purpose; to serve as a shield and shelter for yet other sensitive matters, so that, with aid of other hundred thousand grains scarce different, these new ones may lie hidden in greater or less degree from the too powerful refulgence of the great luminary.

SERIOUS, BUT FUNNY.

Man wants but little here below — at least when he is photographed. The following letter has been sent to us by a photographer who received it in the ordinary course of business. At the National Convention Mr. Parkinson highly amused the crowd with the account of a letter he received from a bridegroom wishing him to make a particular kind of picture from the proofs enclosed. The audience thought the matter very funny, as exhibiting great ignorance on the part of an apparently well-educated man.

The following letter, received by our correspondent, is evidently the production of one in humbler circles, but he clearly has as much faith in the photographer's powers as did the other:

DEAR SIR,— On the prove where the hole groop is took if you could only turn the head of the groom toward the bride so that he would look better then make ½ doz. of these pictures. And the feller that stands right back of the groom also try to turn the head a little to the right and be shure to do so and then make ½ doz. large and 2 doz. small, 1 doz. of each that is 2 doz, and ½ doz. Don't bother to send another prove just straiten the head a little and it will be all right. We just got the proves.

Now be shure and make a little provement and make our pictures quick.

Yours true,
MR. ———————.

P. S.—Arrange this groop of young people in a little better shape. Get the groom in the same shape as the Bride is so that he won't be so very hard twisted so that he wont be so far away from the Bride and then send us a prove and if the prove looks good without sending us, we will have ½ of a doz. made. Will you please and straiten the grooms head towards the left.

DETROIT, MICH., Nov. 11, 1902.

F. Dundas Todd, Chicago, Illinois:

DEAR SIR,—The reading of your article on "Routine." recalls a little instance of dog-life which may prove of interest to you.

One Christmas morning, some years ago, our neighbor, on opening her door, found a poor little mongrel shivering upon the doorstep, and her heart being moved with pity she took it in, gave it a good, warm breakfast, and left it in the kitchen to thaw out.

She had no desire to keep the little animal; so, in the afternoon, she put it out doors, hoping it would run along about its business. But the dog knew a good thing and refused to budge, so that finally the lady decided to give it a home, and as it came to her on Christmas, she named it "Chrissy," and appointed it guardian of the household; and I may add that she has never regretted the act, for "Chrissy" has proved a very intelligent and faithful companion.

But the little waif had one fault—if it could be called a fault—and that was her excessive love for humanity, which she was never backward in displaying upon every occasion when there were visitors at the house. She would leap upon their laps and "kiss" their hands and faces with so much fervor that her mistress was finally obliged to adopt strenuous methods in subduing this inordinate display of affection. Therefore, whenever the door-bell would ring, "Chrissy" would be put into a closet, there to remain until the company left.

This went on until the animal had grown out of puppyhood and was able to conduct itself in a more seemly manner. It has been over a year since this discipline has been discontinued, but the old habits of routine are firmly planted in the dog's mind, so that to this day whenever the bell rings, "Chrissy" runs to the closet door and barks and looks up in her mistress's face as much as to say, "Company's coming, hurry and shut me up;" and the door must be closed upon her for a few moments before she is contented.

Yours truly,

WALTER G. TEUTON.

WYOMING VALLEY CAMERA CLUB.

26 AND 28 PUBLIC SQUARE,
WILKESBARRE, PA., Nov. 27, 1902.

The Photo-Beacon Publishing Company, Chicago, Illinois:

The Wyoming Valley Camera Club, of Wilkesbarre, Pennsylvania, announces its annual club exhibition on January 18 to 25. In connection with this exhibit there will be a loan and sale exhibition to which the leading workers are being asked by invitation to contribute in order to maintain a high standard.

The object of this exhibition is to give the public outside of the large cities an opportunity of becoming better acquainted with the progress of the photographic art.

Yours truly,

R. S. KAUFMAN.

GRAVURA.

The above is the title of a very beautiful paper that has just been placed on the market by The Carbutt Dry Plate & Film Company, Wayne Junction, Pennsylvania, that will appeal to art workers in photography. Its chief characteristic is a fine quality of grain that is specially fitted for landscape work and large portraits, and ought to be a very welcome addition to the photographic fold.

WANTED—BACK VOLUMES OF "THE PHOTO-BEACON."

Recently we asked readers to endeavor to supply us with volumes I to X of THE PHOTO-BEACON, for presentation to the Library of Congress. Through the kindness of one reader we have secured the first five volumes, and we again appeal for volumes VI to X. If you can spare any volumes or single copies, kindly write at once.

EDITORIAL TABLE.

FROM THE INLAND PRINTER COMPANY we have received a copy of the second edition of Jenkins' book on "Photoengraving," which shows decided improvement upon the former edition. Not only is the work brought up to date, but the reading matter is handled in a terse and businesslike manner. It differs from most other books on this subject in that the formulæ and general instructions are given clearly and without any subterfuge. Most of the publications in this line serve simply as advertising sheets for the goods manufactured or for sale by the various authors. It is very evident that the desire of the author of this book is to place before his readers a concise and connected view of photoengraving. If a criticism might be made we would suggest that the illustrations are a trifle old for the letterpress, showing, for example, a picture of a printing-frame which has for many years been relegated to the shelf. However, small trifles of this nature may be overlooked in view of the superiority of the reading matter. The chapters on trichromatic work are well handled, and it is sufficient to state that the theory is from the pen of such authorities as F. E. Ives and S. H. Horgan to know that they give only theories which are now accepted as being scientifically correct. At the beginning of the volume there are inserted sheets of progressive principles of trichromatic work, which form a valuable adjunct to the reading matter at the end, and should prove very instructive to any student along these lines. The book does not embrace anything of the dry process formula of photoengraving, but, notwithstanding, taken all round, it is a thoroughly good work of its class, and we strongly recommend it as being valuable in the hands of any one interested in this branch of photography. It is published by The Inland Printer Company, Chicago, and sells for $2.

FROM H. A. HYATT, 410 North Broadway, St. Louis, Missouri, we are in receipt of "Photo Lighting," by Felix Raymer, instructor in lighting and posing at the Illinois College of Photography, Effingham, Illinois. The book contains twenty-four chapters, each of which is devoted either to the illustration and exposition of one particular form of lighting or is devoted to the handling of the skylight and the curtains. The illustrations are very plentiful, showing the effects possible by the various methods described, and altogether should prove very interesting reading, more particularly to those who are taking up this branch of photography. The book is very handsomely bound and sells for $2.50, and we understand that the sales have already been surprisingly good.

ALL PHOTOGRAPHERS, and readers of THE PHOTO-BEACON in particular, will be interested to learn that Mr. James F. Ryder, 3586 Euclid avenue, Cleveland, Ohio, has at last issued his reminiscences in book form under the title of "Voigtlander and I." In addition to the matter which appeared in THE PHOTO-BEACON there are a great many other chapters which are just as interesting and as readable. It is almost impossible for one to open up the book anywhere without finding an example of pictorial photography, so that the book is very handsomely illustrated, but the pictures are not by any means the only good features of the book. The paper and presswork are very handsome examples of the printer's art, while every page bears every imprint of Mr. Ryder's genial, kindly disposition. It is an interesting book, a handsome volume for the book-case and a fascinating book to read. The price is $2.50 and it is well worth the money.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
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